

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 33.4337 Seconds

(without alignments)  
1047.520 Million cell updates/sec

Title: US-09-852-261-6

Sequence: 1 GPEILCGAEVLDALQFVCGD.....TNKMKSGRRRKSGTFPEHK 111

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SPTREMBL 25:\*

- 1: sp\_archaea:\*
- 2: sp\_bacteria:\*
- 3: sp\_fungi:\*
- 4: sp\_human:\*
- 5: sp\_invertebrate:\*
- 6: sp\_mammal:\*
- 7: sp\_mhc:\*
- 8: sp\_organelle:\*
- 9: sp\_plant:\*
- 10: sp\_protent:\*
- 11: sp\_virus:\*
- 12: sp\_vertebrate:\*
- 13: sp\_unclassified:\*
- 14: sp\_virus:\*
- 15: sp\_bacteriopl:\*
- 16: sp\_bacteriopl:\*
- 17: sp\_archaea:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	564.5	93.8	139	4 Q13429	Q13429 homo sapien
2	501	89.2	165	11 Q8CAR0	Q8CAR0 mus musculu
3	465	77.2	130	4 Q9NP10	Q9NP10 homo sapien
4	465	77.2	137	4 Q14620	Q14620 homo sapien
5	462	76.7	139	6 P79167	P79167 equus caball
6	460	76.4	133	6 Q9N1C1	Q9N1C1 bos taurus
7	450	74.3	153	11 Q8C4U6	Q8C4U6 mus musculu
8	447	74.3	127	11 P97899	P97899 rattus sp.
9	419	69.6	153	13 Q93380	Q93380 melastrius g
10	404	67.1	161	13 Q91230	Q91230 oncorhynch
11	403	66.9	178	13 Q91B70	Q91B70 cyprinus ca
12	402	66.8	145	13 Q91475	Q91475 salmo salar
13	402	66.8	155	13 Q91162	Q91162 oncorhynch
14	402	66.8	188	13 P81268	P81268 oncorhynch
15	402	66.8	188	13 Q91965	Q91965 oncorhynch
16	398	66.1	149	13 Q91231	Q91231 oncorhynch

17	396	65.8	116	13 Q91161	Q91161 oncorhynch
18	395	65.6	117	13 Q91476	Q91476 salmo salar
19	391.5	65.0	186	13 Q800Y5	Q800Y5 siganus gut
20	388	64.5	161	13 Q90VY9	Q90VY9 brachydont
21	384.5	63.9	186	13 Q93527	Q93527 paraliichthy
22	384.5	63.9	186	13 Q711A7	Q711A7 perca flav
23	384	63.8	159	13 Q93607	Q93607 paraliichthy
24	383	63.6	161	13 Q9PWX2	Q9PWX2 carassius a
25	380	63.1	117	13 Q91914	Q91914 ctenopharym
26	380	63.0	161	13 Q9Y182	Q9Y182 carassius a
27	379	63.0	161	13 Q9S8R6	Q9S8R6 megalobrama
28	379	63.0	161	13 Q860D5	Q860D5 megalobrama
29	377.5	62.7	186	13 Q9PSX5	Q9PSX5 paraliichthy
30	377	62.6	182	13 Q73720	Q73720 oreochromis
31	376.5	62.5	182	13 P79824	P79824 oreochromis
32	376.5	62.5	182	13 Q42289	Q42289 oreochromis
33	376.5	62.5	185	13 Q57436	Q57436 paraliichthy
34	373	62.0	104	13 Q71107	Q71107 dicentrarch
35	373	62.0	108	13 Q800N0	Q800N0 morone chry
36	373	62.0	108	13 Q800M3	Q800M3 morone saxa
37	373	62.0	108	13 Q800M8	Q800M8 morone chry
38	373	62.0	108	13 Q800M7	Q800M7 morone amer
39	363	60.3	185	13 Q9Y157	Q9Y157 acanthopagr
40	358	59.5	66	6 Q9N1S6	Q9N1S6 capreolus c
41	354.5	58.9	184	13 Q42336	Q42336 myoxocephal
42	336.5	55.9	69	6 Q02807	Q02807 bubalus bub
43	305	50.7	57	6 Q28236	Q28236 cervus elap
44	301.5	50.1	126	13 Q91442	Q91442 squatus aca
45	278	46.2	62	13 Q91A00	Q91A00 carassius a

## ALIGNMENTS

RESULT 1

ID Q13429 PRELIMINARY; PRT; 139 AA.

AC Q13429;

DT 01-NOV-1996 (TEMBLrel. 01, Last sequence update)

DT 01-JUN-2003 (TEMBLrel. 24, Last annotation update)

DE Insulin-like growth factor-I (fragment).

OS IGF-I.

GN Homo sapiens (Human).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

OX NCBI\_TaxID=9606;

RN (1)

RP SEQUENCE FROM N.A.

RC TISSUE=Liver;

RX MEDLINE=95237119; PubMed=7720641;

RA Chew S.L., Lavender P., Clark A.J., Ross R.J.;

RT "An alternatively spliced human insulin-like growth factor-I transcript with hepatic tissue expression that diverts away from the mitogenic IGF1 peptide."

RT Mitogenic IGF1 peptide."

RL Endocrinology 136:1939-1944(1995).

CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).

CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

DR EMBL: U40870; AAA96152.1; -.

DR HSSP: P01343; 2GFI.

DR GO: GO:0005576; C:extracellular; IEA.

DR GO: GO:0005179; F:hormone activity; IEA.

DR GO: GO:0007582; P:physiological processes; IEA.

DR InterPro: IPR004825; Ins/IGF/relax.

DR Pfam: PF00049; Insulin; 1.

DR PRINTS: PR00277; INSULIN.

DR SMART: SM00078; IIGF; 1.

DR PROSITE: PS00262; INSULIN; 1.

FT NON\_TER

FT SEQUENCE 139 AA; 15611 MW; A62271872CA29DE4 CRC64;

Query Match 93.8%; Score 564.5; DB 4; Length 139;

Best Local Similarity 95.5%; Pred. No. 8,1e-60;

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Matches 106; Conservative 1; Mismatches 3; Indels 1; Gaps 1;

QY 1 GPEITCGAEIVDALQFVCGRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLEMY 60
DB 30 GPEITCGAEIVDALQFVCGRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLEMY 89
QY 61 CAPLKPAKARSYVRAQHTDMPKTKYQPPSTNKKMKSGRRKSGTFEEHK 111
DB 90 CAPLKPAKARSYVRAQHTDMPKTKYQPPSTNKKMKSGRRKSGTFEEHK 139

RESULT 2
Q8CARO PRELIMINARY; PRT; 165 AA.
AC 08CARO;
DT 01-MAR-2003 (TREMBlrel. 23, Last sequence update)
DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
DE Unknown EST.
GN C730016P09RIK.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Thymus;
RX MEDLINE=22354683; PubMed=12466851;
RA THE FANTOM Consortium.
RA the RIKEN Genome Exploration Research Group Phase I & II Team;
RT "Analysis of the mouse transcriptome based on functional annotation of
RT 60,770 full-length cDNAs."
RL Nature 420:563-573(2002).
DR EMBL; AK038119; BAC29334.1; -.
DR MGI; MGI:2444166; C730016P09RIK.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; P:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF.1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 165 AA; 18473 MW; 2CE0D3DA981C3F8 CRC64;

Query Match 83.2%; Score 501; DB 11; Length 165;
Best Local Similarity 90.4%; Pred. No. 4,2e-52;
Matches 94; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLEMY 60
DB 33 GPEITCGAEIVDALQFVCGRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLEMY 92
QY 61 CAPLKPAKARSYVRAQHTDMPKTKYQPPSTNKKMKSGRRKSG 104
DB 93 CAPLKPAKARSYVRAQHTDMPKTKYQPPSTNKKMKSGRRKSG 136

RESULT 3
Q9NP10 PRELIMINARY; PRT; 130 AA.
AC 09NP10;
DT 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE IGF1 protein precursor.
GN IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.

Matches 106; Conservative 1; Mismatches 3; Indels 1; Gaps 1;

RX MEDLINE=88065102; PubMed=3693205;
RA Rall L.B., Scott J., Bell G.I.;
RT "Human insulin-like growth factor I and II messenger RNA: isolation of
RT complementary DNA and analysis of expression."
RL Meth. Enzymol. 146:239-248(1987).
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DB EMBL; M29644; AA052543.1; -.
DR HSSP; P01343; 2GFI.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; P:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF.1.
DR PROSITE; PS00262; INSULIN; 1.
DR SIGNAL.
FT CHAIN 1 25 POTENTIAL.
FT SIGNAL 26 95 POTENTIAL.
SQ SEQUENCE 130 AA; 14406 MW; 970FBAACFA0352D CRC64;

Query Match 77.2%; Score 465; DB 4; Length 130;
Best Local Similarity 98.8%; Pred. No. 6,8e-48;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLEMY 60
DB 26 GPEITCGAEIVDALQFVCGRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLEMY 85
QY 61 CAPLKPAKARSYVRAQHTDMPKTK 86
DB 86 CAPLKPAKARSYVRAQHTDMPKTK 111

RESULT 4
Q14620 PRELIMINARY; PRT; 137 AA.
AC 014620;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE Insulin-like growth factor I precursor.
GN IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC MEDLINE=9187000; PubMed=2082190;
RA Tobin G., Yee D., Brunner N., Rotwein P.;
RT "A novel human insulin-like growth factor I messenger RNA is expressed
RT in normal and tumor cells."
RL Mol. Endocrinol. 4:1914-1920(1990).
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DB EMBL; M37484; AA052789.1; -.
DR FTR; A36552; A36552.
DR HSSP; P01343; 2GFI.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; P:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF.1.
DR PROSITE; PS00262; INSULIN; 1.
DR SIGNAL.
FT CHAIN 1 32 POTENTIAL.
FT SIGNAL 33 137 POTENTIAL.
SQ SEQUENCE 137 AA; 15177 MW; BFC0D1B52AB75D CRC64;

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Query Match 77.2%; Score 465; DB 4; Length 137;  
 Best Local Similarity 98.8%; Pred. No. 7, 2e-48;  
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEY 60  
 DB 33 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEY 92

QY 61 CAPLKPAAARSVAORHTDMPKTK 86  
 DB 93 CAPLKPAAARSVAORHTDMPKTK 118

RESULT 5  
 ID P79167 PRELIMINARY; PRT; 139 AA.  
 AC P79167;  
 DT 01-MAY-1997 (TREMBlrel. 03, Created)  
 DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)  
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)  
 DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C) (Fragments).  
 DE IGF1.  
 GN Equus caballus (Horse).  
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Perissodactyla; Equidae; Equus.  
 OC NCBI\_TaxID=9796;  
 RN [1]  
 RP SEQUENCE OF 1-122 FROM N.A.  
 RC TISSUE=Liver;  
 RA MEDLINE=97013467; PubMed=8660303;  
 RX Cote K., Rozell B., Gessbo A., Engstrom M.;  
 RT "Cloning and sequencing of an equine insulin-like growth factor I cDNA and its expression in fetal and adult tissues.";  
 RL Gen. Comp. Endocrinol. 102:11-15(1996).  
 RN [2]  
 RP SEQUENCE OF 123-139 FROM N.A.  
 RA Nixon A.J., Toland B.D., Sandell L.J.;  
 RL Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.  
 CC -1- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.  
 CC -1- SUBCELLULAR LOCATION: SECRETED.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-IB;  
 CC IsoId=P79167-1; Sequence=Displayed;  
 CC Name=IGF-IA;  
 CC IsoId=PS1458-1; Sequence=External;  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; U28070; AAA68952.1; -;  
 DR EMBL; U85271; AAB47484.1; -;  
 DR HSSP; P01343; 2GFI.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0008083; F:growth factor activity; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Signal; Alternative splicing.  
 FT SIGNAL 1  
 FT PROPEP 2  
 FT CHAIN 48  
 FT DOMAIN 49 118  
 FT DOMAIN 77  
 FT DOMAIN 78 89  
 FT DOMAIN 90 110  
 FT DOMAIN 111 118  
 FT PROPEP 119  
 FT NON CONS 122 123  
 FT DISULFID 54 96  
 FT DISULFID 66 109  
 BY SIMILARITY.  
 BY SIMILARITY.

FT DISULFID 95 100  
 FT NON TER 139 139  
 SQ SEQUENCE 139 AA; 15612 MW; CDC08F19C62A12C CRC64;

Query Match 76.7%; Score 462; DB 6; Length 139;  
 Best Local Similarity 85.4%; Pred. No. 1, 7e-47;  
 Matches 88; Conservative 1; Mismatches 2; Indels 12; Gaps 1;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEY 60  
 DB 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEY 108

QY 61 CAPLKPAAARSVAORHTDMPKTK 103  
 DB 109 CAPLKPAAARSVAORHTDMPKTK 139

RESULT 6  
 ID Q9N1C1 PRELIMINARY; PRT; 133 AA.  
 AC Q9N1C1;  
 DT 01-OCT-2000 (TREMBlrel. 15, Created)  
 DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)  
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)  
 DE Insulin-like growth factor I (Fragment).  
 DE IGF1.  
 GN Bos taurus (Bovine).  
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidea; Bovidae; Bovinae; Bos.  
 OC NCBI\_TaxID=9913;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Lien S., Karlsen A., Klemetsdal G., Vage D.I., Olsaker I., Klungland H., Aasland M., Heringstad B., Ruane J., Gomez-Raya L.;  
 RT "A primary screen of the bovine genome for quantitative trait loci affecting twinning rate.";  
 RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.  
 CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; AF210385; AAF72409.1; JOINED.  
 DR EMBL; AF210386; AAF72409.1; JOINED.  
 DR HSSP; P01343; 2GFI.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 FT NON TER 1  
 FT SEQUENCE 133 AA; 14674 MW; A6991DBC75C103B CRC64;

Query Match 76.4%; Score 460; DB 6; Length 133;  
 Best Local Similarity 97.7%; Pred. No. 2, 8e-47;  
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEY 60  
 DB 29 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEY 88

QY 61 CAPLKPAAARSVAORHTDMPKTK 86  
 DB 89 CAPLKPAAARSVAORHTDMPKTK 114

RESULT 7  
 ID Q8CAU6 PRELIMINARY; PRT; 153 AA.  
 AC Q8CAU6;  
 DT 01-MAR-2003 (TREMBlrel. 23, Created)

DT 01-MAR-2003 (Tremblrel. 23, last sequence update)  
 DT 01-OCT-2003 (Tremblrel. 25, last annotation update)  
 DE UNKNOWN EST.  
 GN C730016P09RIK.  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 CX NCB1\_Taxid=10090;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=C57BL/6J; TISSUE=Cerebellum;  
 RX MEDLINE=22354683; PubMed=12466851;  
 RA The FANTOM Consortium,  
 RA the RIKEN Genome Exploration Research Group Phase I & II Team;  
 RT "Analysis of the mouse transcriptome based on functional annotation of  
 RT 60,770 full-length cDNAs."  
 RL Nature 420:563-573(2002).  
 DR EMBL; AK081019; BAC38117.1;  
 DR MGD; MGI:2444166; C730016P09RIK.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin.1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF.1.  
 DR PROSITE; PS00262; INSULIN.1.  
 SQ SEQUENCE 153 AA; 17093 MW; 967596AEACCA387 CRC64;  
 Query Match 74.8%; Score 450; DB 11; Length 153;  
 Best Local Similarity 95.3%; Pred. No. 5.2e-46;  
 Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;  
 QY 1 GPEITLCAELVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDRLRLMY 60  
 DB 49 GPEITLCAELVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDRLRLMY 108  
 QY 61 CAPLKPAKARSVRAQRHTDMPKTK 86  
 DB 109 CAPLKPAKARSVRAQRHTDMPKTK 134  
 RESULT 8  
 P97899 PRELIMINARY; PRT; 127 AA.  
 AC P97899;  
 DT 01-MAY-1997 (Tremblrel. 03, Created)  
 DT 01-MAY-1997 (Tremblrel. 03, last sequence update)  
 DT 01-JUN-2003 (Tremblrel. 24, last annotation update)  
 DE Insulin-like growth factor I.  
 OS Rattus sp.  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 CX NCB1\_Taxid=10118;  
 RN [1]  
 RP PARTIAL SEQUENCE FROM N.A.  
 RC MEDLINE=8722423; PubMed=3034909;  
 RA Shimatsu A., Rotwein P.;  
 RT "Mosaic evolution of the insulin-like growth factors."  
 RT J Biol. Chem. 262:7894-7900(1987).  
 RL [2]  
 RP SEQUENCE FROM N.A.  
 RC MEDLINE=91103966; PubMed=1368571;  
 RA Kato H., Okoshi A., Mura Y., Noguchi T.;  
 RT "A new cDNA clone relating to larger molecular species of rat insulin-  
 RT like growth factor-I mRNA."  
 RL Agric Biol. Chem. 54:1599-1601(1990).  
 CC -1- SUBCELLULAR LOCATION: SECRETED (By SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; D00698; BAA00604.1; -.  
 DR HSSP; P01343; ZGFI.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin.1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF.1.  
 DR PROSITE; PS00262; INSULIN.1.  
 RX SIGNAL.  
 FT CHAIN 1 48 POTENTIAL.  
 FT SIGNAL 1 48 INSULIN-LIKE GROWTH FACTOR-I.  
 SQ SEQUENCE 153 AA; 17295 MW; 5AF15BBD13C70B5 CRC64;  
 Query Match 69.6%; Score 419; DB 13; Length 153;  
 Best Local Similarity 88.4%; Pred. No. 2.7e-42;  
 Matches 76; Conservative 4; Mismatches 6; Indels 0; Gaps 0;  
 QY 1 GPEITLCAELVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDRLRLMY 60  
 DB 49 GPEITLCAELVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDRLRLMY 108  
 QY 61 CAPLKPAKARSVRAQRHTDMPKTK 86  
 DB 109 CAPLKPAKARSVRAQRHTDMPKTK 134  
 RESULT 10  
 Q91230

DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin.1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF.1.  
 DR PROSITE; PS00262; INSULIN.1.  
 FT CHAIN 23 92 POTENTIAL.  
 FT SIGNAL 23 92 INSULIN-LIKE GROWTH FACTOR-I.  
 SQ SEQUENCE 127 AA; 14106 MW; 104E126BCFCA5CB7 CRC64;  
 Query Match 74.3%; Score 447; DB 11; Length 127;  
 Best Local Similarity 94.2%; Pred. No. 9.6e-46;  
 Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPEITLCAELVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDRLRLMY 60  
 DB 23 GPEITLCAELVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDRLRLMY 82  
 QY 61 CAPLKPAKARSVRAQRHTDMPKTK 86  
 DB 83 CAPLKPAKARSVRAQRHTDMPKTK 108

RESULT 9  
 ID 093380 PRELIMINARY; PRT; 153 AA.  
 AC 093380;  
 DT 01-NOV-1998 (Tremblrel. 08, Created)  
 DT 01-NOV-1998 (Tremblrel. 08, last sequence update)  
 DT 01-JUN-2003 (Tremblrel. 24, last annotation update)  
 DE Insulin-like growth factor-I precursor.  
 GN IGF1.  
 OS Melagris gallopavo (Common turkey).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Meleagris.  
 CX NCB1\_Taxid=9103;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Big 6 ML Tom; TISSUE=Liver;  
 RA Czerwinski S.M., Ashwell C.M., McMurry J.P.;  
 RT "Cloning of turkey insulin-like growth factor-I (IGF-I)."  
 RT Submitted (JUN-1998) to the EMBL/GenBank/DBJ databases.  
 CC -1- SUBCELLULAR LOCATION: SECRETED (By SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; AF074980; AAC26006.1; -.  
 DR HSSP; P01343; ZGFI.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin.1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF.1.  
 DR PROSITE; PS00262; INSULIN.1.  
 RX SIGNAL.  
 FT CHAIN 1 48 POTENTIAL.  
 FT SIGNAL 1 48 INSULIN-LIKE GROWTH FACTOR-I.  
 SQ SEQUENCE 153 AA; 17295 MW; 5AF15BBD13C70B5 CRC64;  
 Query Match 69.6%; Score 419; DB 13; Length 153;  
 Best Local Similarity 88.4%; Pred. No. 2.7e-42;  
 Matches 76; Conservative 4; Mismatches 6; Indels 0; Gaps 0;  
 QY 1 GPEITLCAELVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDRLRLMY 60  
 DB 49 GPEITLCAELVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDRLRLMY 108  
 QY 61 CAPLKPAKARSVRAQRHTDMPKTK 86  
 DB 109 CAPLKPAKARSVRAQRHTDMPKTK 134

ID 091230 PRELIMINARY; PRT: 161 AA.

AC 091230;

DT 01-NOV-1996 (TREMBlrel. 01, Created)

DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)

DE 01-JUN-2003 (TREMBlrel. 24, Last annotation update)

GN Insulin-like growth factor-I.

IGF-I.

OC Oncorhynchus tshawytscha (Chinook salmon) (King salmon).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;

OC Proactinopterygii; Salmoniformes; Salmonidae; Oncorhynchus.

OX NCBI\_TaxID=74940;

RN [1]

RP SEQUENCE FROM N.A.

RC STRAIN=Big Qualicum River; TISSUE=Liver;

RX MEDLINE=93247592; PubMed=7683374;

RA Wallis A.E., Devlin R.H.,

RT "Duplicate insulin-like growth factor-I genes in salmon display alternative splicing pathways."

RL Mol. Endocrinol. 7:409-422(1993).

RN [2]

RP SEQUENCE FROM N.A.

RC STRAIN=Big Qualicum River; TISSUE=Liver;

RA Devlin R.H.,

RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.

CC -1- SUBCELLULAR LOCATION: SECRETED (By Similarity).

CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

DR EMBL; U15961; AAA67267.1; -.

DR PIR; C54270; C54270.

DR HSSP; P01343; 2GFI.

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005179; P:hormone activity; IEA.

DR InterPro; IPR004825; Ins/IGF/relax.

DR Pfam; PF00049; Insulin; 1.

DR PRINTS; PRO0277; INSULINB.

DR SMART; SMO0078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.

SO SEQUENCE 161 AA; 17763 MW; A5A85D121377BF67 CRC64;

Query Match 67.1%; Score 404; DB 13; Length 161;

Best Local Similarity 69.4%; Pred. No. 1,8e-40;

Matches 77; Conservative 13; Mismatches 15; Indels 6; Gaps 2;

QY 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSSRAPDTGIVDECCFSCDLRLRWY 60

DB 45 GPEITCGAELVDLTQFVCGDGRGFYFNKPTGYGSSSRSHNRGIVDECCFSCDLRLRWY 104

QY 61 CAPLPAAKAAARSVRQRTDMPKTKYQPPSTN-----KKKSKRRKRGST 106

DB 105 CAPVSGKAAARSVRQRTDMPKTKYQPPSTN-----KKKSKRRKRGST 154

RESULT 11

Q91B10 PRELIMINARY; PRT: 178 AA.

AC 091B10;

DT 01-OCT-2000 (TREMBlrel. 15, Created)

DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)

DE 01-OCT-2003 (TREMBlrel. 25, Last annotation update)

DE Insulin-like growth factor I subtype Eaz.

GN IGF-1Eaz OR IGF-1.

OS Cyprinus carpio (Common carp).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;

OC Cyprinidae; Cyprinus.

OX NCBI\_TaxID=7962;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Liver;

RX MEDLINE=96241923; PubMed=8680527;

RA Liang Y.H., Cheng C.H., Chan K.M.,

RT "Insulin-like growth factor Iba2 is the predominantly expressed form

RT of IGF in common carp (Cyprinus carpio).";

RL Mol. Mar. Biol. Biotechnol. 5:145-152(1996).

RN [2]

RP SEQUENCE FROM N.A.

RA Vong Q.P., Chan K.M., Cheng C.H.K.,

RT "Common carp insulin-like growth factor-I gene: Genomic organization and functional characterization of the 5'-flanking region.";

RL Submitted (JUN-2002) to the EMBL/GenBank/DBJ databases.

CC -1- SUBCELLULAR LOCATION: SECRETED (By Similarity).

CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

DR EMBL; S82374; AAB37702.2; -.

DR EMBL; AF465830; AAF78926.1; -.

DR HSSP; P01343; 2GFI.

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005179; P:hormone activity; IEA.

DR GO; GO:0007582; P:physiological processes; IEA.

DR InterPro; IPR004825; Ins/IGF/relax.

DR Pfam; PF00049; Insulin; 1.

DR PRINTS; PRO0277; INSULINB.

DR SMART; SMO0078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.

SO SEQUENCE 178 AA; 19687 MW; 7075A34FF379C459 CRC64;

Query Match 66.9%; Score 403; DB 13; Length 178;

Best Local Similarity 68.2%; Pred. No. 2.7e-40;

Matches 75; Conservative 12; Mismatches 19; Indels 4; Gaps 1;

QY 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSSRAPDTGIVDECCFSCDLRLRWY 60

DB 62 GPEITCGAELVDLTQFVCGDGRGFYFNKPTGYGSSSRSHNRGIVDECCFSCDLRLRWY 121

QY 61 CAPLPAAKAAARSVRQRTDMPKTKYQPPSTN-----STTKKKSKRRKRGST 106

DB 122 CAPVSGKAAARSVRQRTDMPKTKYQPPSTN-----STTKKKSKRRKRGST 171

RESULT 12

Q91475 PRELIMINARY; PRT: 145 AA.

AC 091475;

DT 01-NOV-1996 (TREMBlrel. 01, Created)

DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)

DE 01-JUN-2003 (TREMBlrel. 24, Last annotation update)

DE Insulin-like growth factor I precursor (Fragment).

OS Salmo salar (Atlantic salmon).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;

OC Proactinopterygii; Salmoniformes; Salmonidae; Salmo.

OX NCBI\_TaxID=8030;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Liver;

RX MEDLINE=93024477; PubMed=1406698;

RA Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.,

RT "Nucleotide sequence and tissue distribution of three insulin-like growth factor I prohormones in salmon.";

RL Mol. Endocrinol. 6:1202-1210(1992).

CC -1- SUBCELLULAR LOCATION: SECRETED (By Similarity).

CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

DR EMBL; M81904; AAI18211.1; -.

DR HSSP; P01343; 2GFI.

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005179; P:hormone activity; IEA.

DR GO; GO:0007582; P:physiological processes; IEA.

DR InterPro; IPR004825; Ins/IGF/relax.

DR Pfam; PF00049; Insulin; 1.

DR PRINTS; PRO0277; INSULINB.

DR SMART; SMO0078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.

DR SIGNAL.

FT NON TER

FT SIGNAL

FT CHAIN 19 >88 POTENTIAL. INSULIN-LIKE GROWTH FACTOR I.

ID	NON TER	145	145	Score 402;	DB 13;	Length 145;
SO	SEQUENCE	145 AA;	15885 MW;	3D94EDF477268FC4	CRC64;	
Qy	Query Match	66.8%;				
Db	Best Local Similarity	73.3%;				
Matches	74;	Conservative	9;	Mismatches	18;	Indels 0;
Gaps						0
Qy	1	GPETLGAELVDALQVCGDRGFYFNKQETGYGSSRRAPQGTGIVDECCFRSCDRLREMY	60			
Db	19	GPETLGAELVDLTIGVCGERGFYFSKQETGYGSSRRSHRNGIYVDECCFQSCDRLREMY	78			
Qy	61	CAPLKPKAKRSYRAQRHMDKMTQKQYPPSPNNKMSQRR	101			
Db	79	CAPVKSQAKRSYRAQRHMDKMTQKQYPPSPNNKMSQRR	119			
RESULT 13						
ID	Q91162	PRELIMINARY;	PRT;	155 AA.		
AC	Q91162					
DT	01-NOV-1996 (TrEMBLrel. 01, Created)					
DT	01-NOV-1996 (TrEMBLrel. 01, Last sequence update)					
DT	01-JUN-2003 (TrEMBLrel. 24, Last annotation update)					
DE	Insulin-like growth factor I precursor (Fragment).					
OS	Oncorhynchus kisutch (Coho salmon)					
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;					
OC	Actinopterygii; Neopterygii; Teleostei; Euteleostei;					
OC	Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.					
OX	NCBI_TaxID=8019;					
KN	(1)					
RP	SEQUENCE FROM N.A.					
RC	TISSUE=Liver;					
RX	MEDLINE=90190659; PubMed=2628735;					
RA	Cao Q.P., Duguay S.J., Plisetkaya B., Steiner D.F., Chan S.J.;					
RT	"Nucleotide sequence and growth hormone regulated expression of salmon					
RL	insulin-like growth factor I mRNA."					
RL	Mo]. Endocrinol. 3:2005-2010(1989).					
RN	(2)					
RP	SEQUENCE FROM N.A.					
RC	TISSUE=Liver;					
RX	MEDLINE=93024477; PubMed=1406698;					
RA	Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;					
RT	"Nucleotide sequence and tissue distribution of three insulin-like					
RL	growth factor I prohormones in salmon."					
RL	Mo]. Endocrinol. 6:1202-1210(1992).					
CC	-1- SUBCELLULAR LOCATION: SECRETED. (BY SIMILARITY).					
CC	-1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.					
CC	EMBL; M81913; AAA49413.1; ..					
DR	PIR; C44012; C44012.					
DR	HSP; P01343; ZGFI.					
DR	GO; GO:0005576; C:extracellular; IEA.					
DR	GO; GO:0005179; P:hormone activity; IEA.					
DR	GO; GO:0007582; P:physiological processes; IEA.					
DR	InterPro; IPR004825; Ims/Igf/relax.					
DR	Pfam; PF00049; Insulin; I.					
DR	PRINTS; PRO0277; INSULINB.					
DR	SMART; SM00078; IIGF; I.					
DR	PROSITE; PS00262; INSULIN; 1.					
KW	Signal.					
FT	NON TER	1				
FT	SIGNAL	<1	18	POTENTIAL.		
FT	CHAIN	19	>88	INSULIN-LIKE GROWTH FACTOR I.		
FT	CONFLICT	73	73	R -> X (IN REF. 1).		
FT	NON_TER	155	155			
SO	SEQUENCE	155 AA;	16966 MW;	022FDD3CA39CA3160	CRC64;	
Qy	Query Match	66.8%;				
Db	Best Local Similarity	73.3%;				
Matches	74;	Conservative	9;	Mismatches	18;	Indels 0;
Gaps						0

RESULT 14

PRELIMINARY; FRT; 188 AA.

81268

81268

01-AUG-1998 (TREMELREL. 07, Created)

01-AUG-1998 (TREMELREL. 07, Last sequence update)

01-JUN-2003 (TREMELREL. 24, Last annotation update)

Insulin-like growth factor I precursor.

IGF-1,1.

Oncorhynchus keta (Chum salmon).

Eukaryote; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Actinopterygii; Neopterygii; Teleostei; Euteleostei;

Proteaceanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.

NCBI\_Taxid=8018;

SEQUENCE FROM N.A.

Kavasan V.M., Koval A.P., Grebenjuk V.A., Chan S.J., Steiner D.F.,

Roberts C.T. Jr., Lerolth D.;

"Structure of the Chum Salmon Insulin-Like Growth Factor I Gene,"

DNA Cell Biol. 11:729-737(1993).

[2]

SEQUENCE FROM N.A.

MEDLINE=94296559; Pubmed=8024699;

Kavasan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,

Roberts C.T. Jr., Lerolth D.;

"Isolation of a second nonallelic insulin-like growth factor I gene

from the salmon genome,"

DNA Cell Biol. 13:555-559(1994).

[3]

SEQUENCE FROM N.A.

MEDLINE=95032736;

Koval A., Kullik V., Duganay S., Plisetzkaya E., Adamo M.L.,

Roberts C.T. Jr., Lerolth D., Kavasan V.;

"Characterization of a salmon insulin-like growth factor I promoter,"

DNA Cell Biol. 13:1057-1062(1994).

[4]

SEQUENCE FROM N.A.

Grebenjuk V.A., Skorokhod A.S., Anoprienko O.V., Koval A.P.;

Submitted (MAY-1998) to the EMBL/GenBank/DBJ databases.

-1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).

CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

DR EMBL: AF063316; AAC18833.1; -.

DR HSSP: P01343; 2GPI.

DR GO: GO:0005576; C:extracellular; IEA.

DR GO: GO:0005179; P:hormone activity; IEA.

DR GO: GO:0007582; P:physiological processes; IEA.

DR InterPro: IPR004825; Ins/IGF/relax.

DR Pfam: PF00049; Insulin; 1.

DR PRINTS: PR00277; INSULINB.

DR SMART: SM00078; IIGF. 1.

DR PROSITE: PS00262; INSULIN; 1.

SO SEQUENCE 188 AA; 20792 MW; F4CEBBD05E0F24B8 CRC64;

Query Match 66.8%; Score 402; DB 13; Length 188;

Basic Local Similarity 73.3%; Pred. No. 3.8e-40;

Matches 74; Conservative 9; Mismatches 18; Indels 0; Gaps 0

1 GPEITLGAALVLDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGIVDECCFASCDLRLRLMY 60

45 GPEITLGAALVLTLLQFVCGDRGFYFNKPTGYGSSSRAPQGTGIVDECCFASCDLRLRLMY 104

61 CAPLKPAKAAASVRAQRIHTDMPKIOKQPPSTNNKMSQRR 101

105 CAPVSGKAASVRAQRIHTDMPRTKISTAYQVNDRGTRER 145

RESULT 15

Q91965  
ID Q91965 PRELIMINARY; PRT; 188 AA.  
AC Q91965;  
DT 01-NOV-1996 (TrEMBLrel. 01, Created)  
DT 01-NOV-1996 (TrEMBLrel. 01, last sequence update)  
DT 01-OCT-2003 (TrEMBLrel. 25, last annotation update)  
DE Insulin-like growth factor-I.  
GN IGF-I.  
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;  
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.  
OX NCBI\_TaxID=74940;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Liver;  
RX MEDLINE=93247592; PubMed=7683374;  
RA Wallis A.E.; Devlin R.H.;  
RT "Duplicate insulin-like growth factor-I genes in salmon display  
RT alternative splicing pathways."  
RL Mol. Endocrinol. 7:409-422(1993).  
RN [2]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Liver;  
RA Devlin R.H.;  
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.  
RN [3]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Liver;  
RA Devlin R.H.;  
RL Submitted (SEP-1994) to the EMBL/GenBank/DBJ databases.  
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
CC -1- SUBCELLULAR LOCATION: SECRETED (By SIMILARITY).  
DR EMBL; U15960; AAA67266.1; -;  
DR EMBL; U15366; AAA67263.1; -;  
DR PIR; B54270; A54270.  
DR PIR; B54270; B54270.  
DR HSSP; P01343; 2GFI.  
DR GO; GO:0005576; C:extracellular; IEA.  
DR GO; GO:0005179; F:hormone activity; IEA.  
DR GO; GO:0007582; F:physiological processes; IEA.  
DR InterPro; IPR004825; Ins/IGF/relax.  
DR Pfam; PF00049; Insulin; 1.  
DR PRINTS; PR00277; INSULINB.  
DR SMART; SM00078; IGF; 1.  
DR PROSITE; PS00262; INSULIN; 1.  
SQ SEQUENCE 188 AA; 20782 MW; F4D705BA811024B8 CRC64;

Query Match 66.8%; Score 402; DB 13; Length 188;  
Best Local Similarity 73.3%; Pred. No. 3.8e-40;

Matches 74; Conservative 9; Mismatches 18; Indels 0; Gaps 0;

QY 1 GPETLGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECFRSCDLRLLEMY 60  
DB 45 GPETLGAELVDLQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECFRSCDLRLLEMY 104  
QY 61 CAPLKPAAKARSYRAQRHTDMPYTKYQPPSTNKKKRSQR 101  
DB 105 CAPVKSQKARSYRAQRHTDMPYTKYQPPSTNKKKRSQR 145

Search completed: March 3, 2004, 07:55:28  
Job time : 33.4337 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 8.0241 Seconds

(without alignments)  
720.304 Million cell updates/sec

Title: US-09-852-261-6

Sequence: 1 GPELIGALVDAIQVCGD.....TNKMKSGRRKSGTPEHK 111

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database: SwissProt\_42:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	602	100.0	143	1	IGF1_RABIT
2	539	89.5	133	1	IGFB_MOUSE
3	536	89.0	195	1	IGFB_HUMAN
4	508	84.4	181	1	IGFB_RAT
5	465	77.2	130	1	IGF1_CAVPO
6	465	77.2	153	1	IGFA_HUMAN
7	460	76.4	122	1	IGF1_CANFA
8	460	76.4	153	1	IGF1_PIG
9	460	76.4	154	1	IGF1_BOVIN
10	456	75.7	154	1	IGF1_CAPI
11	452	75.1	154	1	IGF1_SHEEP
12	450	74.8	127	1	IGFA_MOUSE
13	447	74.3	153	1	IGFA_RAT
14	419	69.6	124	1	IGF1_COTUA
15	419	69.6	153	1	IGF1_CHICK
16	417	69.3	81	1	IGF1_SUNMU
17	412.5	68.3	153	1	IGF1_XENLA
18	403	66.5	161	1	IGFB_XENLA
19	402	66.8	176	1	IGFB_CYPCA
20	400	66.4	122	1	IGF1_ONCKI
21	398	66.1	176	1	IGF1_HORSE
22	393	65.3	161	1	IGF1_ONCMY
23	393	65.3	161	1	IGFA_CYPCA
24	272	45.2	214	1	IGF2_ONCMY
25	242	40.2	179	1	IGF2_SHEEP
26	236	39.2	155	1	IGF2_BOVIN
27	232	38.5	180	1	IGF2_HUMAN
28	231	38.4	128	1	IGF2_CAVPO
29	229	38.0	139	1	IGF2_MOUSE
30	229	38.0	181	1	IGF2_HORSE
31	229	38.0	181	1	IGF2_PIG
32	227	37.7	180	1	IGF2_MOUSE
33	224.5	37.3	180	1	IGF2_RAT

34	219	35.4	66	1	IGF2_CHICK	P33717	gallus gall
35	159.5	26.5	50	1	INS_MYOC	P07453	myoxocephal
36	158.5	26.3	50	1	INS_GADCA	P01336	gadus calia
37	155.5	25.8	51	1	INS2_BATSP	P01337	batrachoidi
38	154	25.6	50	1	INS2_BATSP	P01338	batrachoidi
39	151	25.1	59	1	INS_HYDCO	P05536	hydroclagus
40	149	24.8	51	1	INS_CHIBR	P01337	chinchilla
41	149	24.8	51	1	INS_ZAODH	P12708	zaocys dhun
42	148	24.6	51	1	INS_ALIMI	P12703	alligator m
43	146.5	24.3	51	1	INS2_THOTH	P01339	thunus thy
44	146	24.3	51	1	INS2_THOTH	P07454	anser anser
45	146	24.3	51	1	INS_CROAT	P01334	crocalus at

## ALIGNMENTS

RESULT 1	IGF1_RABIT	STANDARD:	PRT:	143 AA.
AC	Q95222; O18846;			
DT	01-NOV-1997 (Rel. 35, Created)			
DT	16-OCT-2001 (Rel. 40, Last sequence update)			
DT	10-OCT-2003 (Rel. 42, Last annotation update)			
DE	Insulin-like growth factor I precursor (IGF-I) (somatomedin).			
GN	IGF1 OR IGF-1.			
OS	Oryctolagus cuniculus (Rabbit).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;			
OX	Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.			
NO	NCBI_TaxID=9986;			
RP	SEQUENCE FROM N.A. (ISOFORM IGF-1A).			
RC	STRAIN=ZIKa;			
RA	Flema G., Brem G., Mueller M.;			
RL	Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.			
RP	SEQUENCE FROM N.A. (ISOFORM IGF-1B).			
RC	STRAIN=ZIKa; TISSUE=Liver;			
RA	Flema G., Brem G., Mueller M.;			
RL	Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.			
CC	-1- FUNCTION: The insulin-like growth factors, isolated from plasma, are structurally and functionally related to insulin but have a much higher growth-promoting activity.			
CC	-1- SUBCELLULAR LOCATION: Secreted.			
CC	-1- ALTERNATIVE PRODUCTS:			
CC	Event-Alternative splicing; Named isoforms=2;			
CC	Name=IGF-1B;			
CC	isoId=Q95222-1; Sequence=Displayed;			
CC	Name=IGF-1A;			
CC	isoId=Q95222-2; Sequence=VSP_002705;			
CC	-1- SIMILARITY: Belongs to the insulin family.			
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CC	EMBL: U75390; AAB48032.1; -			
CC	EMBL: AF022961; AAB80950.1; -			
DR	HSSP: P01343; IGF1.			
DR	InterPro: IPR004825; Ins/IGF/relax.			
DR	Pfam: PF00049; Insulin1.1.			
DR	PRINTS: PR00277; INSULINB.			
DR	SMART: SM00076; IIGF_1.			
KW	PROSITE: PS00622; INSULIN; 1.			
KW	Insulin family; Growth factor; Plasma; Signal; Alternative splicing.			
FT	SIGNAL	1	32	POTENTIAL.
FT	CHAIN	33	102	INSULIN-LIKE GROWTH FACTOR I.
FT	PROPEP	103	143	E PEPTIDE.
FT	DOMAIN	33	61	B.



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FT DOMAIN 62 73 C.
FT DOMAIN 74 94 A.
FT DOMAIN 95 102 D.
FT DISULFID 38 80 BY SIMILARITY.
FT DISULFID 50 93 BY SIMILARITY.
FT DISULFID 79 84 BY SIMILARITY.
FT VARSPLIC 119 143 YOPSTNKKMSQRRKSGTFEEHK -> EYHLMNTSRGSA
FT /FTID=VSP 002705.
FT /FTID=VSP 002705.
SQ SEQUENCE 143 AA; 16091 MW; 819AF57800A1B1A CRC64;

Query Match
Best Local Similarity 100.0%; Score 602; DB 1; Length 143;
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDGFYFNKPTGYGSSRRAPOTGIVDECCFSCDLRLIEMV 60
DB 33 GPEITCGAELVDALQFVCGDGFYFNKPTGYGSSRRAPOTGIVDECCFSCDLRLIEMV 92
QY 61 CAPLKPAAKASVRAQRHTDMPKTKYQPPSTNKKMSQRRKSGTFEEHK 111
DB 93 CAPLKPAAKASVRAQRHTDMPKTKYQPPSTNKKMSQRRKSGTFEEHK 143

RESULT 2
IGFB_MOUSE STANDARD; PRT; 133 AA.
ID IGFB_MOUSE
AC P05018;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DE 15-MAR-2004 (Rel. 43, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN IGFI OR IGF-1
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_Taxid:10090;
NP 1
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.T., Stempien M.M., Fong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
RT growth factor I precursors."
RT Nucleic Acids Res. 14:7873-7882(1986).
RN 12
RP SEQUENCE FROM N.A.
RC STRAIN=FVB/N; TISSUE=Liver;
RX MEDLINE=22388257; PubMed=12477932;
RA Klausner R.D., Collins F.S., Wagner L., Sherman C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Scheeler C.F., Bhac N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heisen F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stachlecon M., Soares M.B., Bonaldi M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshnyuk S., Abramson R.D., Mullany S.J.,
RA Raha S.S., Loquellano N.A., Peters G.J., Carramano R.D., Gunaratne P.H.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richardson S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalón D.K., Muzny D.M., Sodergren B., Du X., Gibbs R.A.,
RA Fahy J., Helton E., Kettelman M., Madan A., Rodriguez S., Sanchez A.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smallue D.E.,
RA Scherch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length
RT human and mouse cDNA sequences."
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC are structurally and functionally related to insulin but have a
CC much higher growth-promoting activity.
CC -1- SUBCELLULAR LOCATION: Secreted.

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CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=IGF-IB;
CC IsoId=P05018-1; Sequence=Displayed;
CC Name=IGF-1A;
CC IsoId=P05017-1; Sequence=External;
CC -1- SIMILARITY: Belongs to the insulin family.
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CC or send an email to license@isb-sib.ch).
CC
DR EMBL; X04482; CAA28170.1; -
DR EMBL; BC012409; AAH12409.1; -
DR HSSP; P01343; IGF1.
DR WGD; MG1:96432; IGF1.
DR GO; GO:0010001; P:neurogenesis; IMP.
DR GO; GO:0007399; P:neurogenesis; IMP.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
DR Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
KM SIGNAL
FT 1 22
FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 23 51 B.
FT DOMAIN 52 63 C.
FT DOMAIN 64 84 A.
FT DOMAIN 85 92 D.
FT PROPEP 93 133 E.PEPTIDE.
FT DISULFID 28 70 BY SIMILARITY.
FT DISULFID 40 83 BY SIMILARITY.
FT DISULFID 69 74 BY SIMILARITY.
SQ SEQUENCE 133 AA; 14915 MW; BBEC05B88D62502 CRC64;

Query Match
Best Local Similarity 91.0%; Score 539; DB 1; Length 133;
Matches 101; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDGFYFNKPTGYGSSRRAPOTGIVDECCFSCDLRLIEMV 60
DB 23 GPEITCGAELVDALQFVCGDGFYFNKPTGYGSSRRAPOTGIVDECCFSCDLRLIEMV 82
QY 61 CAPLKPAAKASVRAQRHTDMPKTKYQPPSTNKKMSQRRKSGTFEEHK 111
DB 83 CAPLKPAAKASVRAQRHTDMPKTKYQPPSTNKKMSQRRKSGTFEEHK 133

RESULT 3
IGFB_HUMAN STANDARD; PRT; 195 AA.
ID IGFB_HUMAN
AC P05019;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DE 10-OCT-2003 (Rel. 42, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
GN IGFI OR IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_Taxid:9606;
NP 11
RP SEQUENCE FROM N.A.
RC MEDLINE=86168194; PubMed=2937782;
RA Kotewin P., Pollock K.M., Didier D.K., Krivi G.G.;
RT "Organization and sequence of the human insulin-like growth factor I
RT gene. Alternative RNA processing produces two insulin-like growth
RT factor I precursor peptides."

```

RL J. Biol. Chem. 261:4828-4832(1986).  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=86094355; PubMed=3455760;  
 RA Rodwein P.;  
 RT "Two insulin-like growth factor I messenger RNAs are expressed in  
 human liver.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=6108862; PubMed=3002851;  
 RA de Pagter-Holthuisen P., van Schaik F.M.A., Verduijn G.M.,  
 van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;  
 RT "Organization of the human genes for insulin-like growth factors I  
 and II.";  
 RL FEBS Lett. 195:179-184(1986).  
 RP SEQUENCE OF 22-50 FROM N.A.  
 RX MEDLINE=8429593; PubMed=6382022;  
 RA Dull T.J., Gray A., Hayflick J.S., Ulrich A.;  
 RT "Insulin-like growth factor II precursor gene organization in  
 relation to insulin gene family.";  
 RL Nature 310:777-781(1984).  
 RP SEQUENCE OF 49-118  
 RX MEDLINE=8130171; PubMed=632300;  
 RA Rinderknecht E., Hummel R.E.;  
 RT "The amino acid sequence of human insulin-like growth factor I and  
 its structural homology with proinsulin.";  
 RL J. Biol. Chem. 253:2769-2776(1978).  
 RP 3D-STRUCTURE MODELING.  
 RX MEDLINE=83210259; PubMed=6189745;  
 RA Blundell T.L., Bedaride S., Hummel R.E.;  
 RT "Tertiary structures, receptor binding, and antigenicity of  
 insulin-like growth factors.";  
 RL Fed. Proc. 42:2592-2597(1983).  
 RP STRUCTURE BY NMR.  
 RX MEDLINE=91242464; PubMed=2036417;  
 RA Cooke R.M., Harvey T.S., Campbell I.D.;  
 RT "Solution structure of human insulin-like growth factor I: a nuclear  
 magnetic resonance and restrained molecular dynamics study.";  
 RL Biochemistry 30:5484-5491(1991).  
 RP STRUCTURE BY NMR.  
 RX MEDLINE=92316903; PubMed=1319992;  
 RA Sato A., Nishimura S., Okubo T., Kyogoku Y., Koyama S., Kobayashi M.,  
 RT "1H-NMR assignment and secondary structure of human insulin-like  
 growth factor-I (IGF-I) in solution.";  
 RL J. Biochem. 111:529-536(1992).  
 RP DISULFIDE BONDS.  
 RX MEDLINE=89207850; PubMed=3242681;  
 RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;  
 RT "Location of disulphide bonds in human insulin-like growth factors  
 (IGFs) synthesized by recombinant DNA technology.";  
 RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).  
 RP VARIANT ASP-187.  
 RX MEDLINE=99318093; PubMed=10391209;  
 RA Cargill M., Alshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,  
 Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,  
 Friedland L., Rolfe A., Warrington J., Lipschutz R., Daley G.Q.;  
 RT "Characterization of single-nucleotide polymorphisms in coding regions  
 of human genes.";  
 RL Nat. Genet. 22:231-238(1999).  
 RP ERRATUM.  
 RA Cargill M., Alshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,  
 Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,  
 Friedland L., Rolfe A., Warrington J., Lipschutz R., Daley G.Q.

RA Friedland L., Rolfe A., Warrington J., Lipschutz R., Daley G.Q.,  
 RL Nat. Genet. 23:373-373(1999).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 are structurally and functionally related to insulin but have a  
 much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-1B;  
 CC IsoId=P05019-1; Sequence=Displayed;  
 CC Name=IGF-1A;  
 CC IsoId=P01343-1; Sequence=External;  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC -----  
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 CC -----  
 DR EMBL; M14155; AAAS2537.1; -;  
 DR EMBL; M12659; AAAS2537.1; JOINED.  
 DR EMBL; M14153; AAAS2537.1; JOINED.  
 DR EMBL; M14154; AAAS2537.1; JOINED.  
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 DR EMBL; X03563; CAA27250.1; ALT\_SEQ.  
 DR EMBL; X03420; CAA27152.1; -;  
 DR EMBL; X03421; CAA27153.1; -;  
 DR EMBL; X03422; CAA27154.1; -;  
 DR PIR; A01611; IGHU1B.  
 DR PDB; 1GFI; 15-OCT-94.  
 DR PDB; 2GFI; 15-APR-93.  
 DR PDB; 3GFI; 15-APR-93.  
 DR PDB; 1BGT; 18-MAY-99.  
 DR Genew; HGNC:5464; IGF1.  
 DR MIM; 147440; -;  
 DR MIM; 265850; -;  
 DR GO; GO:0005159; F:Insulin-like growth factor receptor binding; TAS.  
 DR GO; GO:0005180; F:peptide hormone; TAS.  
 DR GO; GO:0006928; P:cell motility; TAS.  
 DR GO; GO:0006260; P:DNA replication; TAS.  
 DR GO; GO:0009441; P:glycolate metabolism; TAS.  
 DR GO; GO:0007517; P:muscle development; TAS.  
 DR GO; GO:0008284; P:positive regulation of cell proliferation; TAS.  
 DR GO; GO:0007265; P:RAS protein signal transduction; TAS.  
 DR GO; GO:0007165; P:signal transduction; TAS.  
 DR GO; GO:001501; P:skeletal development; TAS.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PRO0277; INSULINB.  
 DR SMART; SMC0078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; 3D-structure; Plasma;  
 KW Alternative splicing; signal; Polymorphism.  
 FT SIGNAL 1 21  
 FT PROPEP 22 48  
 FT CHAIN 49 118  
 FT DOMAIN 49 77 B.  
 FT DOMAIN 78 89 C.  
 FT DOMAIN 90 110 A.  
 FT DOMAIN 111 118 D.  
 FT PROPEP 119 195 E PEPTIDE.  
 FT DISULFID 54 96  
 FT DISULFID 66 109  
 FT DISULFID 95 100  
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 FT STRAND 51 51  
 FT TURN 55 55  
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 FT HELIX 91 95  
 FT TURN 96 97  
 FT STRAND 99 99  
 FT HELIX 106 109  
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Query Match  
 Best Local Similarity 89.0%; Score 536; DB 1; Length 195;  
 Matches 98; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDLRLLEY 60  
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QY 61 CAPLPAKARSASVRAORHTDMPKTKOKYOPSTNKKMSQRK 102  
 DB 109 CAPLPAKARSASVRAORHTDMPKTKOKYOPSTNKKMSQRK 150

RESULT 4  
 IGF1\_RAT STANDARD; PRT; 181 AA.  
 AC P08024;  
 DT 01-AUG-1988 (Rel. 08, Created)  
 DT 01-FEB-1991 (Rel. 17, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).  
 GN IGF1 OR IGF-1.  
 OS Rattus norvegicus (Rat).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 OX NCBI\_TaxID=10116;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=87222423; PubMed=3034909;  
 RA Shimatsu A., Rotwein P.;  
 RT "Mosaic evolution of the insulin-like growth factors. Organization,  
 RT sequence, and expression of the rat insulin-like growth factor I  
 RT gene.";  
 RT J. Biol. Chem. 262:7894-7900 (1987).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=8015572; PubMed=3658684;  
 RA Shimatsu A., Rotwein P.;  
 RT "Sequence of two rat insulin-like growth factor I mRNAs differing  
 RT within the 5' untranslated region.";  
 RT Nucleic Acids Res. 15:7196-7196 (1987).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=89127259; PubMed=3221878;  
 RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;  
 RT "Structure of the rat insulin-like growth factor II transcriptional  
 RT unit: heterogeneous transcripts are generated from two promoters by  
 RT use of multiple polyadenylation sites and differential ribonucleic  
 RT acid splicing.";  
 RT Mol. Endocrinol. 2:1115-1126 (1988).  
 RN [4]  
 RP SEQUENCE OF 49-118.  
 RX MEDLINE=89174609; PubMed=2538424;  
 RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,  
 RA Nakamura S., Niwa M., Zapp J.;  
 RT "Primary structure of rat insulin-like growth factor-I and its  
 RT biological activities.";  
 RT J. Biol. Chem. 264:5616-5621 (1989).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 CC are structurally and functionally related to insulin but have a  
 CC much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-IB;  
 CC IsoId=P08024-1; Sequence=Displayed;

CC Name=IGF-IA; Sequence=External;  
 CC IsoId=P08025-1; Sequence=External;  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC -----  
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 CC -----

DR EMBL; M15650; AAA41214.1; -;  
 DR EMBL; M15647; AAA41214.1; JOINED.  
 DR EMBL; M15648; AAA41214.1; JOINED.  
 DR EMBL; M15649; AAA41214.1; JOINED.  
 DR EMBL; X06107; CAA29480.1; ALT\_SEQ.  
 DR EMBL; M15480; AAA41385.1; ALT\_SEQ.  
 DR PIR; A27804; A27804.  
 DR HSP; P01343; IGF1.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.  
 FT SIGNAL 1 ?  
 FT PROPEP 48  
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.  
 FT DOMAIN 49 77 B.  
 FT DOMAIN 78 89 C.  
 FT DOMAIN 90 110 A.  
 FT DOMAIN 111 118 D.  
 FT PROPEP 119 181 E. PEPTIDE.  
 FT DISULFID 54 96 BY SIMILARITY.  
 FT DISULFID 66 109 BY SIMILARITY.  
 FT DISULFID 95 100 BY SIMILARITY.  
 FT CONFLICT 110 112 APL -> VRC (IN REF. 2).  
 SQ SEQUENCE 181 AA; 20322 MW; 52BAB431875A1A06 CRC64;

Query Match  
 Best Local Similarity 84.4%; Score 508; DB 1; Length 181;  
 Matches 94; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDLRLLEY 60  
 DB 49 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDLRLLEY 108

QY 61 CAPLPAKARSASVRAORHTDMPKTKOKYOPSTNKKMSQRK 102  
 DB 109 CAPLPAKARSASVRAORHTDMPKTKOKYOPSTNKKMSQRK 154

RESULT 5  
 IGF1\_CAVPO STANDARD; PRT; 130 AA.  
 AC P17647;  
 DT 01-AUG-1990 (Rel. 15, Created)  
 DT 01-AUG-1990 (Rel. 15, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).  
 GN IGF1.  
 OS Cavia porcellus (Guinea pig).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Hystriognathi; Caviidae; Cavia.  
 OX NCBI\_TaxID=10441;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX TISSUE=pancreas;  
 RX MEDLINE=90332447; PubMed=2377480;  
 RA Bell G.I., Stempien M.M., Fong N.M., Scino S.;  
 RT "Sequence of a cDNA encoding guinea pig IGF-I.";  
 RT Nucleic Acids Res. 18:4275-4275 (1990).

CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
CC are structurally and functionally related to insulin but have a  
CC much higher growth-promoting activity.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- SIMILARITY: Belongs to the insulin family.  
CC  
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CC  
CC EMBL: X52951; CA37127.1; -.  
CC PIR: S12719; IGFPI.  
CC HSP: P01343; IGF1.  
CC InterPro: IPR004825; Ins/IGF/relax.  
CC Pfam: PF00049; Insulin; 1.  
CC PRINTS: PR00277; INSULINB.  
CC SMART: SM00078; IIGF; 1.  
CC PROSITE: PS00262; INSULIN; 1.  
CC  
CC Insulin family; Growth factor; Plasma; Signal.  
CC  
CC SIGNAL 1 25  
CC FT CHAIN 26 95 INSULIN-LIKE GROWTH FACTOR I.  
CC FT DOMAIN 26 54 B.  
CC FT DOMAIN 55 66 C.  
CC FT DOMAIN 67 87 A.  
CC FT DOMAIN 88 95 D.  
CC FT PROPEP 96 130 E. PEPTIDE.  
CC FT DISULFID 31 72 BY SIMILARITY.  
CC FT DISULFID 43 86 BY SIMILARITY.  
CC FT DISULFID 72 77 BY SIMILARITY.  
CC SQ SEQUENCE 130 AA; 14342 MW; 251B20EDC5729FF CRC64;  
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CC Query Match 77.2%; Score 465; DB 1; Length 130;  
CC Best Local Similarity 98.8%; Pred. No. 5.7e-42;  
CC Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
CC  
CC Qy 1 GPTTGGAEIVDALQVCGDGRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDRLRLMY 60  
CC Db 26 GPTTGGAEIVDALQVCGDGRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDRLRLMY 85  
CC  
CC Qy 61 CAPLKPAKASRYRAQRHTDMPKTK 86  
CC Db 86 CAPLKPAKASRYRAQRHTDMPKTK 111  
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CC RESULT 6  
CC ID IGFA HUMAN STANDARD; PRT; 153 AA.  
CC AC P01343;  
CC DT 21-JUL-1986 (Rel. 01, Created)  
CC DT 13-AUG-1987 (Rel. 05, Last sequence update)  
CC DT 10-OCT-2003 (Rel. 42, Last annotation update)  
CC DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).  
CC GN IGF1 OR IGF1.  
CC OS Homo sapiens (human).  
CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
CC OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
CC OX NCBI\_TaxID=9606;  
CC RN 1;  
CC RP SEQUENCE FROM N.A.  
CC RA MEDLINE=6168194; PubMed=2937782;  
CC RA Rotwein P., Pollock K.W., Didler D.K., Krivt G.G.,  
CC RT "Organization and sequence of the human insulin-like growth factor I  
CC RT gene. Alternative RNA processing produces two insulin-like growth  
CC RT factor I precursor peptides.";  
CC RL J. Biol. Chem. 261:4828-4832(1986).  
CC RN 2;  
CC RP SEQUENCE FROM N.A.  
CC RA MEDLINE=84068210; PubMed=6358902;  
CC RA Jansen M., van Schaik F.W.A., Ricker A.T., Bullock B., Woods D.E.,

RA Gabbay K.H., Nusbaum A.L., Sussenbach J.S., van den Brande J.L.;  
RA "Sequence of cDNA encoding human insulin-like growth factor I  
RA RT precursor.";  
RA Nature 306:609-611 (1983).  
RA RN 3;  
RA RP SEQUENCE FROM N.A.  
RA MEDLINE=86108910; PubMed=2935423; Binoux M., Sondermeyer P.,  
RA Le Bouc Y., Dreyer D., Jaeger F.,  
RA "Complete characterization of the human IGF-I nucleotide sequence  
RA RT isolated from a newly constructed adult liver cDNA library.";  
RA FEBS Lett. 196:108-112(1986).  
RA RN 14;  
RA RP SEQUENCE FROM N.A.  
RA MEDLINE=86108862; PubMed=3002851;  
RA de Pagter-Holthuisen P., van Schaik F.W.A., Verduijn G.M.,  
RA Van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.,  
RA "Organization of the human genes for insulin-like growth factors I  
RA and II.";  
RA FEBS Lett. 195:179-184(1986).  
RA RN 15;  
RA RP SEQUENCE FROM N.A.  
RA MEDLINE=91207342; PubMed=2018498;  
RA Steenbergh P.H., Koonen-Reemst A.M.C.B., Cleutjens C.B.J.M.,  
RA Sussenbach J.S.;  
RA "Complete nucleotide sequence of the high molecular weight human  
RA RT IGF-I mRNA.";  
RA Biochem. Biophys. Res. Commun. 175:507-514(1991).  
RA RN 16;  
RA RP SEQUENCE FROM N.A.  
RA TISSUE=Brain;  
RA MEDLINE=92186627; PubMed=1372070;  
RA Sandberg Nordqvist A.C., Stahlbow P.A., Lake M., Sara V.R.;  
RA "Characterization of two cDNAs encoding insulin-like growth factor I  
RA (IGF-1) in the human fetal brain.";  
RA Brain Res. Mol. Brain Res. 12:275-277(1992).  
RA RN 17;  
RA RP SEQUENCE OF 24-50 AND 119-153 FROM N.A.  
RA MEDLINE=84295593; PubMed=6382022; Ullrich A.,  
RA Dull T.O., Gray A., Hayflick J.S.,  
RA "Insulin-like growth factor II precursor gene organization in  
RA RT relation to insulin gene family.";  
RA Nature 310:777-781(1984).  
RA RN 18;  
RA RP SEQUENCE OF 49-118.  
RA MEDLINE=78130371; PubMed=632300;  
RA Rinderknecht E., Humbel R.E.;  
RA "The amino acid sequence of human insulin-like growth factor I and  
RA RT its structural homology with proinsulin.";  
RA J. Biol. Chem. 253:2769-2776(1978).  
RA RN 19;  
RA RP 3D-STRUCTURE MODELING.  
RA MEDLINE=83210259; PubMed=6189745;  
RA Blundell T.L., Begdarker S., Humbel R.E.;  
RA "Tertiary structures, receptor binding, and antigenicity of  
RA RT insulin-like growth factors.";  
RA Fed. Proc. 42:2592-2597(1983).  
RA RN 110;  
RA RP STRUCTURE BY NMR.  
RA MEDLINE=91242464; PubMed=2036417;  
RA Cooke R.M., Harvey T.S., Campbell I.D.;  
RA "Solution structure of human insulin-like growth factor I: a nuclear  
RA RT magnetic resonance and restrained molecular dynamics study.";  
RA Biochemistry 30:5484-5491(1991).  
RA RN 111;  
RA RP STRUCTURE BY NMR.  
RA MEDLINE=92316903; PubMed=1319992;  
RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,  
RA Yasuda T., Kobayashi Y.;  
RA "1H-NMR assignment and secondary structure of human insulin-like  
RA RT growth factor-I (IGF-I) in solution.";  
RA J. Biochem. 111:529-536(1992).  
RA RN 112;

RX DISULFIDE BONDS.  
 MEDLINE=89207850; PubMed=3242681;  
 RA Raschdorf F., Dahinden R., Maerkl W., Richter W.J., Merryweather J.P.;  
 RT "Location of disulphide bonds in human insulin-like growth factors  
 (IGFs) synthesized by recombinant DNA technology.";  
 RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 are structurally and functionally related to insulin but have a  
 much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-1A;  
 CC IsoId=P01343-1; Sequence=Displayed;  
 CC Name=IGF-1B;  
 CC IsoId=P05019-1; Sequence=External;  
 CC -1- SIMILARITY: Belongs to the insulin family.  
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 CC -----  
 DR EMBL M14156; AAA52538.1; JOINED.  
 DR EMBL M12659; AAA52538.1; JOINED.  
 DR EMBL M14153; AAA52538.1; JOINED.  
 DR EMBL M14154; AAA52538.1; JOINED.  
 DR EMBL X00173; CAA24998.1; -  
 DR EMBL X03563; CAA27250.1; ALT\_SEQ.  
 DR EMBL M27544; AAA52787.1; -  
 DR EMBL X03420; CAA27152.1; -  
 DR EMBL X03421; CAA27153.1; -  
 DR EMBL X03422; CAA27154.1; -  
 DR EMBL X57025; CAA40342.1; -  
 DR EMBL X56773; CAA40092.1; -  
 DR PIR A92581; IGH01.  
 DR PDB 1GF1; 15-OCT-94.  
 DR PDB 2GF1; 15-APR-93.  
 DR PDB 3GF1; 15-APR-93.  
 DR PDB 1B9G; 23-FEB-99.  
 DR PDB 1G2R; 02-OCT-02.  
 DR PDB 1G2Y; 02-OCT-02.  
 DR PDB 1G2Z; 25-JUL-02.  
 DR PDB 1H02; 25-JUL-02.  
 DR PDB 1H59; 16-MAY-02.  
 DR PDB 1IMX; 03-OCT-01.  
 DR Genew; HGNC:5464; IGF1.  
 DR MIM 147440; -  
 DR MIM 265850; -  
 DR GO GO:0005159; F:insulin-like growth factor receptor binding; TAS.  
 DR GO GO:0005180; F:peptide hormone; TAS.  
 DR GO GO:0006928; P:cell motility; TAS.  
 DR GO GO:0006260; P:DNA replication; TAS.  
 DR GO GO:0009441; P:glycolate metabolism; TAS.  
 DR GO GO:0008284; P:positive regulation of cell proliferation; TAS.  
 DR GO GO:0007265; P:RNA protein signal transduction; TAS.  
 DR GO GO:0007165; P:skeletal development; TAS.  
 DR GO GO:0001501; P:skeletal development; TAS.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SMO0078; IGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 DR Insulin family; Growth factor; Plasma; 3D-structure;  
 KW Alternative splicing; Signal.  
 FT SIGNAL 1 21  
 FT PROPEP 2 48  
 FT CHAIN 49 118  
 FT DOMAIN 49 77  
 B. INSULIN-LIKE GROWTH FACTOR 1A.

FT DOMAIN 78 89 C.  
 FT DOMAIN 90 110 A.  
 FT DOMAIN 111 118 D.  
 FT PROPEP 119 153 E PEPTIDE.  
 FT DISULFID 54 96  
 FT DISULFID 66 109  
 FT DISULFID 95 100  
 FT STRAND 51 51  
 FT TURN 55 55  
 FT TURN 56 69  
 FT TURN 87 88  
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 FT TURN 99 99  
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 SQ SEQUENCE 153 AA; 17026 MW; C6ECD92DCA9B37BC CRC64;  
 Query Match 77.2%; Score 465; DB 1; Length 153;  
 Best Local Similarity 96.8%; Pred. No. 6.8e-42;  
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 GPEITCGALVDALQFVCGDRGFYFNKPTGYSRSSRRAPDTGIVDCFRSCDRLRLMY 60  
 DB 49 GPEITCGALVDALQFVCGDRGFYFNKPTGYSRSSRRAPDTGIVDCFRSCDRLRLMY 108  
 QY 61 CAPLKPAAASVSAQCHTDMPTOK 86  
 DB 109 CAPLKPAAASVSAQCHTDMPTOK 134  
 RESULT 7  
 ID IGF1 CANFA STANDARD; PRT; 122 AA.  
 AC P33712;  
 DT 01-FEB-1994 (Rel. 28, Created)  
 DT 01-FEB-1994 (Rel. 28, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor I precursor (IGF-1) (Somatomedin)  
 DE (Fragment).  
 GN IGF1 OR IGF1A.  
 OS Canis familiaris (Dog).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
 OX NCBI\_TaxID=9615;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=9336192; PubMed=8359700;  
 RA Delafontaine P., Lou H., Harrison D.G., Bernstein K.E.;  
 RT "Sequence of a cDNA encoding dog insulin-like growth factor I.";  
 RL Gene 130:305-306(1993).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 are structurally and functionally related to insulin but have a  
 much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- SIMILARITY: Belongs to the insulin family.  
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 CC -----  
 DR EMBL L08254; -; NOT\_ANNOTATED\_CDS.  
 DR PIR; PNO622; PNO622.  
 DR HSSP; P01343; IGF1.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SMO0078; IGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma; Signal.

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FT     NON TER      1      1      BY SIMILARITY.
FT     SIGNAL      <1      1.9      INSULIN-LIKE GROWTH FACTOR I.
FT     CHAIN      20      69
FT     DOMAIN      20      48      A.
FT     DOMAIN      49      60      B.
FT     DOMAIN      61      81      C.
FT     DOMAIN      82      89      D.
FT     PROPEP      90      122      E.
FT     DISULFID      25      67      BY SIMILARITY.
FT     DISULFID      37      80      BY SIMILARITY.
FT     DISULFID      66      71      BY SIMILARITY.
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Query Match      76.4%; Score 460; DB 1; Length 122;
Best Local Similarity 97.7%; Pred. No. 1.8e-41;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

OY      1  GPETLCGAEIVDPLQVCGDGFYFNKPTGTGSSSRAPQGTGVDECCFSCDLARLEMY 60
DB      20  GPETLCGAEIVDPLQVCGDGRFYFNKPTGTGSSSRAPQGTGVDECCFSCDLARLEMY 79

OY      61  CAPLKPAKARSYVRAQRTHTMPTKTX 86
DB      80  CAPLKPAKARSYVRAQRTHTMPTKAK 105

RESULT 8
ID      IGF1_PIG      STANDARD;      PRT;      153 AA.
AC      P16545;
DT      01-AUG-1990 (Rel. 15, Created)
DT      01-AUG-1990 (Rel. 15, Last sequence update)
DT      10-OCT-2003 (Rel. 42, Last annotation update)
DE      Insulin-like growth factor I precursor (IGF-I) (somatomedin).
GN      IGF1.
OS      Sus scrofa (Pig).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Mammalia; Sutheria; Cetartiodactyla; Suina; Suidae; Sus.
CX      NCBI_TaxID=9823;
[1]
SEQUENCE FROM N.A.
RP      RX      MEDLINE=90221822; PubMed=2326169;
RA      Mueller M., Brem G.;
RT      "Nucleotide sequence of porcine insulin-like growth factor. 1:5'
RT      untranslated region, exons 1 and 2 and mRNA."
RL      Nucleic Acids Res. 18:364-364 (1990).
[2]
SEQUENCE OF 20-153 FROM N.A.
RP      RX      MEDLINE=89096956; PubMed=321153;
RA      Tavakkol A., Simmen F.A., Simmen R.G.M.;
RT      "Porcine insulin-like growth factor-1 (IGF-I): complementary
RT      deoxyribonucleic acid cloning and uterine expression of messenger
RT      ribonucleic acid encoding evolutionarily conserved IGF-1 peptides."
RL      Mol. Endocrinol. 2:674-681 (1988).
[3]
SEQUENCE OF 1-21 FROM N.A.
RP      RC      STRAIN=White Landrace; TISSUE=Liver;
RX      MEDLINE=94128209; PubMed=8297476;
RA      Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,
RA      Gilmour R.S.;
RT      "The porcine insulin-like growth factor-I gene: characterization and
RT      expression of alternate transcription sites."
RL      J. Mol. Endocrinol. 11:201-211 (1993).
-1- FUNCTION: The insulin-like growth factors, isolated from plasma,
are structurally and functionally related to insulin but have a
much higher growth-promoting activity.
-1- SUBCELLULAR LOCATION: Secreted.
-1- SIMILARITY: Belongs to the insulin family.
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CC -----
DR EMBL/ X17492; CAA35527.1; -
DR EMBL/ X52388; CAA36617.1; -
DR EMBL/ X52077; CAA36296.1; -
DR EMBL/ M31105; AAA31043.1; ALT_INIT.
DR EMBL/ X17638; CAA35632.1; -
DR PIR; S12825; S12825.
DR HSSP; P01343; IGF1.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
DR Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 ?
FT PROPEP ? 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 153 E.
FT DISULFID 54 96 E.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
SQ SEQUENCE 153 AA; 17010 MW; 6098792DCDA0CD7D CRC64;
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Best Local Similarity 97.7%; Pred. No. 2,3e-41;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 GPEPTLGGALVVALFVGGDGGFYFNPNPTGYGSSRRAPDTGVDECCFRSCDLRLRELY 60
DB 49 GPEPTLGGALVVALFVGGDGGFYFNPNPTGYGSSRRAPDTGVDECCFRSCDLRLRELY 108
QY 61 CAELPKPAKARSVRAQRHTDMPKTKR 86
DB 109 CAELPKPAKARSVRAQRHTDMPKTKR 134
RESULT 9
IGF1_BOVIN STANDARD; PRT; 154 AA.
ID IGF1_BOVIN
AC P07455;
DT 01-APR-1988 (Rel. 07, Created)
DT 01-NOV-1991 (Rel. 20, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniota; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Choriiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID:9913;
RN [1]
RP SEQUENCE OF 2-154 FROM N.A.
RX MEDLINE=80175014; PubMed=2308858;
RA Fornsie T., Murphy C., Gannon F.;
RT "Nucleotide sequence of the bovine insulin-like growth factor 1
RT (IGF-1) and its IGF-1A precursor."
RL Nucleic Acids Res. 18:676-676(1990).
RN [2]
RP SEQUENCE OF 50-119 FROM N.A.
RX MEDLINE=95172127; PubMed=7867698;
RA Schmidt A., Einspänner R., Amelander W., Sinowatz F., Schams D.;
RT "Expression of insulin-like growth factor 1 (IGF-1) in the bovine
RT oviduct during the oestrous cycle."
RL Exp. Clin. Endocrinol. 102:364-369(1994).
RN [3]
RP SEQUENCE OF 50-119.

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EX MEDLINE=86085881; PubMed=3941093;  
RA Honesger A., Hummel R.E.;  
RT "Insulin-like growth factors I and II in fetal and adult bovine  
RT serum. Purification, primary structures, and immunological  
RT cross-reactivities.";  
RL J. Biol. Chem. 261:569-575(1986).  
RN [4]  
RP SEQUENCE OF 50-119.  
RX MEDLINE=86268820; PubMed=3390164;  
RA Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;  
RT "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences  
RT and biological activities compared with those of a potent truncated  
RT form.";  
RL Biochem. J. 251:95-103(1988).  
CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
CC are structurally and functionally related to insulin but have a  
CC much higher growth-promoting activity.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- SIMILARITY: Belongs to the insulin family.  
CC -----  
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CC -----  
CC EMBL: X15726; CAB3746.1; -  
CC EMBL: S76122; AAD14209.1; -  
CC PIR: S12672; IGB01.  
DR HSSP: P01343; IGF1.  
DR InterPro: IPR004825; Ins/IGF/relax.  
DR Pfam: PF00049; Insulin; 1.  
DR PRINTS: PR00277; INSULINB.  
DR SMART: SM00078; IIGF; 1.  
DR PROSITE: PS00262; INSULIN; 1.  
KW Insulin family; Growth factor; Plasma; Signal.  
FT SIGNAL 1 ? 49  
FT PROPEP ? 49  
FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.  
FT DOMAIN 50 78 B.  
FT DOMAIN 79 90 A.  
FT DOMAIN 91 111 C.  
FT DOMAIN 112 119 D.  
FT PROPEP 120 154 E. PEPTIDE.  
FT DISULFID 55 97 BY SIMILARITY.  
FT DISULFID 67 110 BY SIMILARITY.  
FT DISULFID 96 101 BY SIMILARITY.  
SQ SEQUENCE 154 AA; 17066 MW; 64201B6AF3140999 CRC64;  
Query Match 76.4%; Score 460; DB 1; Length 154;  
Best Local Similarity 97.7%; Pred. No. 2.3e-41;  
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
QY 1 GPELTGAEIVDALQFVCGDGRGFYFNKPTGYGSSSRAPQGTGYDECCFSSCDLRLEMY 60  
DB 50 GPELTGAEIVDALQFVCGDGRGFYFNKPTGYGSSSRAPQGTGYDECCFSSCDLRLEMY 109  
QY 61 CAPLKPAKARSVRAQRHTDMPKTXQ 86  
DB 110 CAPLKPAKARSVRAQRHTDMPKTXQ 135  
RESULT 10  
IGF1\_CAPHI STANDARD; PRT; 154 AA.  
AC PS1457;  
DT 01-OCT-1996 (Rel. 34, Created)  
DT 16-OCT-2001 (Rel. 40, Last sequence update)  
DT 15-MAR-2004 (Rel. 43, Last annotation update)  
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).  
GN IGF1.

OS Capra hircus (Goat).  
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidea;  
OC Bovidae; Caprinae; Capra.  
OX NCBI\_TaxID=9925;  
RN [1]  
RP SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.  
RC STRAIN=Shiba; TISSUE=Liver;  
RX MEDLINE=95290780; PubMed=7772848;  
RA Mlkawa S., Yoshikawa G.-I., Yamano Y., Sakai H., Komano T., Hosoi Y.,  
RA Utsuni K.;  
RT "Tissue- and development-specific expression of goat insulin-like  
RT growth factor-1 (IGF-I) mRNAs.";  
RL Biosci. Biotechnol. Biochem. 59:759-761(1995).  
CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
CC are structurally and functionally related to insulin but have a  
CC much higher growth-promoting activity.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- TISSUE SPECIFICITY: Expressed in all tissues examined: brain,  
CC lung, liver, spleen, uterus, ovary, testis, heart and skeletal  
CC muscle.  
CC -----  
CC -1- SIMILARITY: Belongs to the insulin family.  
CC -----  
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CC -----  
CC EMBL: D11378; BAA01976.1; -  
CC EMBL: D26119; BAB7524.1; ALT. SEQ.  
CC EMBL: D26116; BAB7524.1; JOINED.  
CC EMBL: D26117; BAB7524.1; JOINED.  
CC EMBL: D26118; BAB7524.1; JOINED.  
CC PIR: JC2483; BAB7524.1; JOINED.  
CC HSSP: P01343; IGF1.  
CC InterPro: IPR004825; Ins/IGF/relax.  
CC Pfam: PF00049; Insulin; 1.  
CC PRINTS: PR00277; INSULINB.  
CC SMART: SM00078; IIGF; 1.  
CC PROSITE: PS00262; INSULIN; 1.  
KW Insulin family; Growth factor; Plasma; Signal.  
FT SIGNAL 1 ? 49  
FT PROPEP ? 49  
FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.  
FT DOMAIN 50 78 B.  
FT DOMAIN 79 90 C.  
FT DOMAIN 91 111 A.  
FT DOMAIN 112 119 D.  
FT PROPEP 120 154 E. PEPTIDE.  
FT DISULFID 55 97 BY SIMILARITY.  
FT DISULFID 67 110 BY SIMILARITY.  
FT DISULFID 96 101 BY SIMILARITY.  
SQ SEQUENCE 154 AA; 17082 MW; 07238B6AF3068422 CRC64;  
Query Match 75.7%; Score 456; DB 1; Length 154;  
Best Local Similarity 96.5%; Pred. No. 6e-41;  
Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
QY 1 GPELTGAEIVDALQFVCGDGRGFYFNKPTGYGSSSRAPQGTGYDECCFSSCDLRLEMY 60  
DB 50 GPELTGAEIVDALQFVCGDGRGFYFNKPTGYGSSSRAPQGTGYDECCFSSCDLRLEMY 109  
QY 61 CAPLKPAKARSVRAQRHTDMPKTXQ 86  
DB 110 CAPLKPAKARSVRAQRHTDMPKTXQ 135  
RESULT 11  
IGF1\_SHEEP STANDARD; PRT; 154 AA.  
ID IGF1\_SHEEP





DE Insulin-like growth factor IA precursor (IGF-1A) (Somatomedin).  
 OS IGF1 OR IGF-1.  
 GN Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 OX NCBI\_TaxID=10090;  
 RN [1]  
 RC SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=87040760; PubMed=3774549;  
 RA Bell G.I., Stempfen M.M., Fong N.M., Rall L.B.;  
 RT "Sequences of liver cDNAs encoding two different mouse insulin-like  
 RT growth factor I precursors."  
 RT Nucleic Acids Res. 14:7873-7882(1986).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 CC are structurally and functionally related to insulin but have a  
 CC much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-1A;  
 CC IsoId=P05017-1; Sequence=Displayed;  
 CC Name=IGF-1B;  
 CC IsoId=P05018-1; Sequence=External;  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC -----  
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 CC or send an email to [license@ebi.ac.uk](mailto:license@ebi.ac.uk)).  
 CC -----  
 CC EMBL; X04480; CAA28168.1; .  
 CC PIR; A25540; A25540.  
 CC HSSP; P01343; IGF1.  
 CC MGD; MG1:96432; IGF1.  
 CC GO; GO:0010001; P:glial cell differentiation; IMP.  
 CC GO; GO:0007399; P:pneurogenesis; IMP.  
 CC InterPro; IPR004825; Ins/IGF/relax.  
 CC Pfam; PF00049; Insulin; 1.  
 CC PRINTS; PR00277; INSULIN.  
 CC SMART; SM0078; IIGF; 1.  
 CC PROSITE; PS00262; INSULIN; 1.  
 CC Insulin family; Growth factor; Plasma; Alternative splicing; Signal.  
 FT SIGNAL 1 22 INSULIN-LIKE GROWTH FACTOR IA.  
 FT CHAIN 23 92  
 FT DOMAIN 23 51 B.  
 FT DOMAIN 52 63 C.  
 FT DOMAIN 64 84 A.  
 FT DOMAIN 85 92 D.  
 FT PROPEP 93 127 E PEPTIDE.  
 FT DISULFID 28 70 BY SIMILARITY.  
 FT DISULFID 40 83 BY SIMILARITY.  
 FT DISULFID 69 74 BY SIMILARITY.  
 SO SEQUENCE 127 AA; 14120 MW; 105488CACT720C2D7 CRC64;  
 Query Match 74.8%; Score 450; DB 1; Length 127;  
 Best Local Similarity 95.3%; Freq. No. 2.1e-40;  
 Matches 62; Conservative 1; Mismatches 3; Indels 0; Gaps 0;  
 QY 1 GGETLGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGYDECCFSCDLRLLEWY 60  
 DB 23 GGETLGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGYDECCFSCDLRLLEWY 82  
 QY 61 CAPLPKAKARASVAPAKQRTMDPKTKQK 86  
 DB 83 CAPLPKAKARASVAPAKQRTMDPKTKQK 108  
 RESULT 13  
 IGF1\_RAT

ID IGF1\_RAT STANDARD; PRT; 153 AA.  
 AC P08025;  
 DT 01-AUG-1988 (Rel. 08, Created)  
 DT 01-FEB-1991 (Rel. 17, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor IA precursor (IGF-1A) (Somatomedin).  
 GN Rattus norvegicus (Rat).  
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 OX NCBI\_TaxID=10116;  
 RN [1]  
 RC SEQUENCE FROM N.A.  
 RX MEDLINE=8722423; PubMed=3034909;  
 RA Shimatsu A., Rotwein P.;  
 RT "Mosaic evolution of the insulin-like growth factors. Organization,  
 RT sequence, and expression of the rat insulin-like growth factor I  
 RT gene."  
 RT J. Biol. Chem. 262:7894-7900(1987).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Testis;  
 RX MEDLINE=88003970; PubMed=3652906;  
 RA Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,  
 RA Hoyt E.C., Lund P.K.;  
 RT "Isolation of rat testis cDNAs encoding an insulin-like growth factor  
 RT I precursor."  
 RT DNA 6:325-330(1987).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=91103966; PubMed=1368571;  
 RA Kato H., Okoshi A., Miura Y., Noguchi T.;  
 RT "A new cDNA clone relating to larger molecular species of rat  
 RT insulin-like growth factor-I mRNA."  
 RT Agric. Biol. Chem. 54:1599-1601(1990).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=8912759; PubMed=3221878;  
 RA Roberts C.T., Laeky S.R., Lowe W.L., Seaman W.T., Lerolth D.;  
 RT "Structure of the rat insulin-like growth factor II transcriptional  
 RT unit: heterogeneous transcripts are generated from two promoters by  
 RT use of multiple polyadenylation sites and differential ribonucleic  
 RT acid splicing."  
 RT Mol. Endocrinol. 2:1115-1126(1988).  
 RN [5]  
 RP SEQUENCE OF 46-153 FROM N.A.  
 RX MEDLINE=87246437; PubMed=3595538;  
 RA Murphy L.J., Bell G.I., Duckworth M.L., Friese H.G.;  
 RT "Identification, characterization, and regulation of a rat  
 RT complementary deoxyribonucleic acid which encodes insulin-like growth  
 RT factor-I."  
 RT Endocrinology 121:684-691(1987).  
 RN [6]  
 RP SEQUENCE OF 49-118.  
 RX MEDLINE=89174609; PubMed=2538424;  
 RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,  
 RA Nakamura S., Niwa M., Zapp J.;  
 RT "Primary structure of rat insulin-like growth factor-I and its  
 RT biological activities."  
 RT J. Biol. Chem. 264:5616-5621(1989).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 CC are structurally and functionally related to insulin but have a  
 CC much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-1A;  
 CC IsoId=P08025-1; Sequence=Displayed;  
 CC Name=IGF-1B;  
 CC IsoId=P08024-1; Sequence=External;  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC -----  
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DR EMBL; X06043; CA29436.1; -  
 DR EMBL; M15651; AAA41215.1; -  
 DR EMBL; M15647; AAA41215.1; JOINED.  
 DR EMBL; M15648; AAA41215.1; JOINED.  
 DR EMBL; M15649; AAA41215.1; JOINED.  
 DR EMBL; M17714; AAA41227.1; -  
 DR EMBL; M17335; AAA41386.1; -  
 DR EMBL; M15481; AAA41387.1; ALT\_INIT.  
 DR PIR; B27804; B27804.  
 DR HSP; P01343; IGF1.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma; Alternative splicing; signal.  
 FT STGMAT 1 2  
 FT PROPEP 48  
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IA.  
 FT DOMAIN 49 77 B.  
 FT DOMAIN 78 89 C.  
 FT DOMAIN 90 110 A.  
 FT DOMAIN 111 118 D.  
 FT PROPEP 119 153 E PEPTIDE.  
 FT DISULFID 54 96 BY SIMILARITY.  
 FT DISULFID 66 109 BY SIMILARITY.  
 FT DISULFID 95 100 BY SIMILARITY.  
 FT CONFLICT 110 112 APL -> VRC (IN REF. 4).  
 SQ SEQUENCE 153 AA; 17079 MW; 966F3C0FA4EB3DE7 CRC64;

Query Match 74.3%; Score 447; DB 1; Length 153;  
 Best Local Similarity 94.2%; Pred. No. 5, 3e-40;  
 Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPEITLCAELVDALQVCGDGRGYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLRMY 60  
 DB 49 GPEITLCAELVDALQVCGDGRGYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLRMY 108  
 QY 61 CAPLKPAKARSYRAQRHTDMPKTK 86  
 DB 109 CAPLKPAKARSYRAQRHTDMPKTK 134

RESULT 14  
 IGF1\_COTJA STANDARD; PRT; 124 AA.  
 AC P51462;  
 DT 01-OCT-1996 (Rel. 34, Created)  
 DT 01-OCT-1996 (Rel. 34, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)  
 DE (Fragment).  
 GN IGF1.  
 OS Coturnix coturnix japonica (Japanese quail).  
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 CC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;  
 CC Coturnix.  
 OC NCBI\_TaxID=93934;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA MEDLINE=95187621; PubMed=7881819;  
 RA Kida S., Iwaki M., Nakamura A., Miura Y., Takeraka A., Takahashi S.,  
 RA Noguchi T.;  
 RL "Insulin-like growth factor-I messenger RNA content in the oviduct of  
 RT Japanese quail (Coturnix coturnix japonica): changes during growth  
 and development or after estrogen administration.";

RL Comp. Biochem. Physiol. 109C:191-204(1994).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 CC are structurally and functionally related to insulin but have a  
 CC much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- SIMILARITY: Belongs to the insulin family.

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DR EMBL; S75247; -; NOT\_ANNOTATED\_CDS.  
 DR HSP; P01343; IGF1.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma.  
 FT STGM TPR 1 1  
 FT PROPEP <1 19 POTENTIAL.  
 FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.  
 FT DOMAIN 20 48 B.  
 FT DOMAIN 49 60 C.  
 FT DOMAIN 61 81 A.  
 FT DOMAIN 82 89 D.  
 FT PROPEP 90 124 E PEPTIDE.  
 FT DISULFID 25 67 BY SIMILARITY.  
 FT DISULFID 37 80 BY SIMILARITY.  
 FT DISULFID 66 71 BY SIMILARITY.  
 SQ SEQUENCE 124 AA; 13888 MW; 52254EB1BA52C3B6 CRC64;

Query Match 69.6%; Score 419; DB 1; Length 124;  
 Best Local Similarity 88.4%; Pred. No. 3, 6e-37;  
 Matches 76; Conservative 4; Mismatches 6; Indels 0; Gaps 0;

QY 1 GPEITLCAELVDALQVCGDGRGYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLRMY 60  
 DB 20 GPEITLCAELVDALQVCGDGRGYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLRMY 79  
 QY 61 CAPLKPAKARSYRAQRHTDMPKTK 86  
 DB 80 CAPLKPAKARSYRAQRHTDMPKTK 105

RESULT 15  
 IGF1\_CHICK STANDARD; PRT; 153 AA.  
 AC P18254;  
 DT 01-NOV-1990 (Rel. 16, Created)  
 DT 01-NOV-1990 (Rel. 16, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).  
 DE (Fragment).  
 GN Gallus gallus (Chicken).  
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 CC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;  
 CC Gallus.  
 OC NCBI\_TaxID=9031;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA MEDLINE=90190648; PubMed=2628728;  
 RA Kajimoto Y., Rotwein P.;  
 RL "Structure and expression of a chicken insulin-like growth factor I  
 precursor.";  
 RL Mol. Endocrinol. 3:1907-1913(1989).  
 [2]  
 RP SEQUENCE OF 1-21 FROM N.A.  
 RA MEDLINE=91236750; PubMed=2033062;

RA Rotwein P., Kajimoto Y.;  
RT "Structure of the chicken insulin-like growth factor I gene reveals  
RT conserved promoter elements.";  
RL J. Biol. Chem. 266:9724-9731 (1991).  
RN (3)  
RP SEQUENCE OF 49-118.  
RX MEDLINE=91106695; PubMed=2272467;  
RA Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,  
RA McMurtry J.P., Wallace J.C.;  
RT "Chicken insulin-like growth factor-I: amino acid sequence,  
RT radioimmunoassay, and plasma levels between strains and during  
RT growth.";  
RL Gen. Comp. Endocrinol. 79:459-468 (1990).  
CC -I- FUNCTION: The insulin-like growth factors, isolated from plasma,  
CC are structurally and functionally related to insulin but have a  
CC much higher growth-promoting activity.  
CC -I- SUBCELLULAR LOCATION: Secreted.  
CC -I- SIMILARITY: Belongs to the insulin family.  
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CC -----  
DR EMBL; M32791; AAA48828.1; -;  
DR EMBL; M74176; AAA48829.1; -;  
DR PIR; A41389; A41389.  
DR HSSP; P01343; IGFI.  
DR InterPro; IPR004825; Ins/IGF/relax.  
DR Pfam; PF00049; Insulin; 1.  
DR PRINTS; PRO0277; INSULINB.  
DR SMART; SM00078; IIGF; 1.  
DR PROSITE; PS00262; INSULIN; 1.  
KW Insulin family; Growth factor; Plasma; Signal.  
FT SIGNAL 1 48  
FT PROPEP 1 48  
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR I.  
FT DOMAIN 49 77 B.  
FT DOMAIN 78 89 C.  
FT DOMAIN 90 110 A.  
FT DOMAIN 111 118 D.  
FT PROPEP 119 153 E. PEPTIDE.  
FT DISULFID 54 96 BY SIMILARITY.  
FT DISULFID 66 109 BY SIMILARITY.  
FT DISULFID 95 100 BY SIMILARITY.  
SQ SEQUENCE 153 AA; 17267 MW; AAEL3FDED13BE2P8 CRC64;  
  
Query March 69.6%; Score 419; DB 1; Length 153;  
Best Local Similarity 88.4%; Pred. No. 4; ce-37;  
Matches 76; Conservative 4; Mismatches 6; Indels 0; Gaps 0;  
  
QY 1 GPEFLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSSRAPQTVGIYDECPSCDRLRLNMY 60  
Db 49 GPEFLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSSRRLHHKGLYDCCFQSCDRLRLNMY 108  
QY 61 CAPLXPAKARSYRAQRHTDMKTKOK 86  
Db 109 CAPLKPPKARSYRAQRHTDMPKAOK 134

Search completed: March 3, 2004, 08:05:42  
Job time: 8.0241 secs

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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 11.7018 Seconds  
(without alignments)  
912.445 Million cell updates/sec

Title: US-09-852-261-6

Perfect score: 602

Sequence: 1 GPEITCGALVDALQFVCGD.....TNKKKSGRRRKGSTFEHK 111

Scoring table: BLOSUM62

Gapop 10.0, Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database:

1: PIR78:\*  
2: PIR1:\*  
3: PIR2:\*  
4: PIR4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match length	ID	Description
1	539	89.5	159 2 A26859	insulin-like growth
2	536	89.0	195 1 IGHU1B	insulin-like growth
3	521	86.5	133 2 A40912	insulin-like growth
4	508	84.4	181 2 A27804	insulin-like growth
5	465	77.2	137 1 IGGP1	insulin-like growth
6	465	77.2	137 2 A36552	insulin-like growth
7	465	77.2	153 1 IGHU1	insulin-like growth
8	460	76.4	122 2 FN0622	insulin-like growth
9	460	76.4	153 1 IGHU1	insulin-like growth
10	460	76.4	153 2 SI2825	insulin-like growth
11	456	75.7	154 2 JC2483	insulin-like growth
12	452	75.1	138 2 S22678	insulin-like growth
13	452	75.1	134 2 A35390	insulin-like growth
14	450	74.8	127 2 A25540	insulin-like growth
15	447	74.3	153 2 B27802	insulin-like growth
16	429	71.3	127 2 B40912	insulin-like growth
17	419	68.6	153 2 A36079	insulin-like growth
18	412.5	68.5	153 2 A36079	insulin-like growth
19	404	67.1	151 2 C54270	insulin-like growth
20	402	66.8	155 2 A46012	insulin-like growth
21	402	66.8	176 2 A41396	insulin-like growth
22	402	66.8	188 2 A54270	insulin-like growth
23	402	66.8	188 2 B54270	insulin-like growth
24	398	66.1	149 2 D54270	insulin-like growth
25	398	66.1	176 2 A46244	insulin-like growth
26	301.5	50.1	126 2 S66485	insulin-like growth
27	298	49.5	133 2 A53697	insulin-like growth
28	272	45.2	214 2 B46244	insulin-like growth
29	246.5	40.9	187 2 T10897	insulin-like growth

30	242	40.2	179 2 S04858	insulin-like growth
31	226	39.2	155 1 IGHU2	insulin-like growth
32	232	38.5	180 1 IGHU2	insulin-like growth
33	231	38.4	128 2 I57671	insulin-like growth
34	229	38.0	139 2 A38612	insulin-like growth
35	229	38.0	181 2 B60738	insulin-like growth
36	227	37.7	180 2 A24913	insulin-like growth
37	226.5	37.6	183 2 S02423	insulin-like growth
38	225	37.4	93 2 I53642	insulin-like growth
39	224.5	37.3	180 1 IGHU2	insulin-like growth
40	220.5	36.6	183 2 I67610	insulin-like growth
41	213.5	35.5	79 2 I51240	insulin-like growth
42	209.5	34.8	210 2 S66484	insulin-like growth
43	197	32.7	66 2 A60740	insulin-like growth
44	175	29.1	44 2 A34049	insulin-like growth
45	159.5	26.5	50 1 INP1S	insulin-like growth

#### ALIGNMENTS

##### RESULT 1

A26859  
insulin-like growth factor IB precursor - rat  
C/Species: Rattus norvegicus (Norway rat)  
C/Date: 19-Nov-1988 #sequence\_revision 19-Nov-1988 #text\_change 16-Jul-1999  
C/Accession: A26859  
R/Shimatsu, A.; Rotwein, P.  
Nucleic Acids Res. 15, 7196, 1987  
A/Title: Sequence of two rat insulin-like growth factor I mRNAs differing within the 5' A/Reference number: A26859; MUID:8615572; PMID:3658684  
A/Accession: A26859  
A/Molecule type: mRNA  
A/Residues: 1-159 <SH1>  
A/Cross-references: IGHU107; GB:M32260; GB:Y00429; NID:956424; PIDN:CAA29480.1; PID:9  
C/Superfamily: insulin  
C/Keywords: alternative splicing; growth factor

Query Match 89.5%; Score 539; DB 2; Length 159;  
Best Local Similarity 90.1%; Pred. No. 2.3e-48;  
Matches 100; Conservative 3; Mismatches 8; Indels 0; Gaps 0;

QY	1	GPEITCGALVDALQFVCGD	RGFYFNKPTGYGSSRRAPQFGIVDECCFRSCDIRRLMY	60
DB	49	GPEITCGALVDALQFVCGD	RGFYFNKPTGYGSSRRAPQFGIVDECCFRSCDIRRLMY	108
QY	61	CARIKAKARSVRAQPHDMPKTKQVPPSTNNKMSORRRKSTFEHK	111	
DB	109	CAFLKPTKASIRAPRHTDMPKTKQVPPSTNNKMSORRRKSTFEHK	159	

##### RESULT 2

IGHU1B  
insulin-like growth factor I precursor, splice form B (validated) - human  
N/Alternate names: IGF-IB; somatomedin C  
N/Contains: insulin-like growth factor IB-E1 amide  
C/Species: Homo sapiens (man)  
C/Date: 30-Jun-1987 #sequence\_revision 30-Jun-1987 #text\_change 31-Dec-2000  
C/Accession: A01611; A26181; S30540; B48960; A42664  
R/Rotwein, P.; Pollock, K.M.; Dabier, D.K.; Kriv, G.G.  
J. Biol. Chem. 261, 4828-4832, 1986  
A/Title: Organization and sequence of the human insulin-like growth factor I gene. Alter  
A/Reference number: A92581; MUID:86168194; PMID:2937782  
A/Accession: A01611  
A/Molecule type: DNA  
A/Residues: 1-195 <ROT1>  
A/Cross-references: GB:M14155; NID:9183106; PIDN:AAA52337.1; PID:9183109  
R/Rotwein, P.  
Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986  
A/Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver.  
A/Reference number: A26181; MUID:86094555; PMID:3455760  
A/Accession: A26181  
A/Molecule type: mRNA

A/Residues: 1-195 <ROT2>  
 A/Cross-references: GB:M11568; NID:G183111; PIDN:AAA52539.1; PID:G183112  
 R/Sanderby Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.  
 submitted to the EMBL Data Library, November 1990  
 A/Description: Nucleotide sequence of the human fetal brain IGF-1b.  
 A/Reference number: S30540  
 A/Accession: S30540  
 A/Molecule type: mRNA  
 A/Residues: 1-195 <SAN>  
 A/Cross-references: EMBL:X56774; NID:G32991; PIDN:CAA40093.1; PID:G32992  
 R/Sanderby Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.F.; von Holst, H.;  
 Cancer Res. 53, 2475-2478, 1993  
 A/Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.  
 A/Reference number: A48960; MUID:93265440; PMID:8495408  
 A/Accession: B48960  
 A/Molecule type: mRNA  
 A/Residues: 1-195 <SA2>  
 A/Cross-references: GB:X56774; GB:S61860; NID:G32991; PIDN:CAA40093.1; PID:G32992  
 A/Experimental source: anaplastic oligodendroglioma  
 A/Note: sequence modified after extraction from NCBI backbone  
 A/Note: the authors translated the codon CAG for residues 124 and 133 as Gln  
 R/Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Malshtine, J.L.; Quinn, K.A.; Cuttitta,  
 Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992  
 A/Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin-1  
 A/Reference number: A42664; MUID:92390398; PMID:1325646  
 A/Contents: annotation; 18E-1; amidated carboxyl end  
 A/Comment: for an alternative splice form, see PIR:IGHU1.  
 C/Genetics:  
 A/Gene: GDB:IGF1  
 A/Cross-references: GDB:120081; OMIM:147440  
 A/Map position: 12q22-12q24.1  
 A/Intons: 21/3; 74/1; 134/3  
 C/Superfamily: insulin  
 C/Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma  
 F/1-21/Domain: signal sequence #status predicted <SIG>  
 F/22-48/Domain: signal sequence #status predicted <PRO>  
 F/49-118/Domain: insulin-like growth factor I #status predicted <MAT>  
 F/49-77/Domain: insulin chain B-like #status predicted <CHB>  
 F/78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>  
 F/90-110/Domain: insulin chain A-like #status predicted <CHA>  
 F/111-118/Domain: D peptide #status predicted <CHD>  
 F/119-195/Domain: carboxyl-terminal propeptide (B peptide) #status predicted <CHB>  
 F/151-172/Product: carboxyl-like growth factor IB-EI amide #status predicted <MA2>  
 F/54-96/66-109/95-100/Disulfide bonds: #status predicted  
 F/172/Modified site: amidated carboxyl end (Arg) (amide in mature form from following 91  
 Query Match 89.0%; Score 536; DB 1; Length 195;  
 Best Local Similarity 96.1%; Pred. No. 5,7e-48;  
 Matches 98; Conservative 2; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 GPEITCGALVDALQFCGDRGFYFNKPTGYGSSRRAPDTGIVDECCFSCDLRLIEMV 60  
 DB 49 GPEITCGALVDALQFCGDRGFYFNKPTGYGSSRRAPDTGIVDECCFSCDLRLIEMV 108  
 QY 61 CAPLPKAAARSVAQRHTDMPKTKQKQPSSTNKKMSQRRRKGST 102  
 DB 109 CAPLPKAAARSVAQRHTDMPKTKQKQPSSTNKKMSQRRRKGST 150  
 RESULT 3  
 A40912  
 Insulin-like growth factor I precursor form 1 - rat  
 C/Species: Rattus norvegicus (Norway rat)  
 C/Date: 28-Feb-1992 #sequence\_revision 28-Feb-1992 #text\_change 16-Jul-1999  
 C/Accession: A40912  
 R/Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.  
 Mol. Endocrinol. 1, 243-248, 1987  
 A/Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonuc  
 C/Accession: A40912; MUID:88288198; PMID:3453891  
 A/Status: preliminary

A/Molecule type: mRNA  
 A/Residues: 1-133 <ROB>  
 A/Cross-references: GB:M15480; NID:G204749; PIDN:AAA41385.1; PID:G204750  
 C/Superfamily: insulin  
 Query Match 86.5%; Score 521; DB 2; Length 133;  
 Best Local Similarity 87.4%; Pred. No. 1.4e-46;  
 Matches 97; Conservative 3; Mismatches 11; Indels 0; Gaps 0;  
 QY 1 GPEITCGALVDALQFCGDRGFYFNKPTGYGSSRRAPDTGIVDECCFSCDLRLIEMV 60  
 DB 23 GPEITCGALVDALQFCGDRGFYFNKPTGYGSSRRAPDTGIVDECCFSCDLRLIEMV 82  
 QY 61 CAPLPKAAARSVAQRHTDMPKTKQKQPSSTNKKMSQRRRKGSTEEHK 111  
 DB 83 CVRCKPTKSARSIRARHTDMPKTKQKQPSSTNKKRLQRRRKGSTEEHK 133  
 RESULT 4  
 A27804  
 Insulin-like growth factor I precursor - rat  
 C/Species: Rattus norvegicus (Norway rat)  
 C/Date: 09-Jun-1988 #sequence\_revision 09-Jun-1988 #text\_change 16-Jul-1999  
 C/Accession: A27804; 165202  
 R/Shimatsu, A.; Rotwein, P.  
 U. Biol. Chem. 262, 7894-7900, 1987  
 A/Title: Mosaic evolution of the insulin-like growth factors. Organization, sequenc  
 A/Reference number: A27804; MUID:87222423; PMID:3034909  
 A/Accession: A27804  
 A/Status: preliminary  
 A/Molecule type: DNA  
 A/Residues: 1-181 <SHT>  
 A/Cross-references: GB:M15650; GB:J02743; NID:G204296; PIDN:AAA1214.1; PID:G204299  
 R/Soderber, C.T.  
 Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987  
 A/Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.  
 A/Reference number: 152218; MUID:87298553; PMID:3619921  
 A/Accession: 165202  
 A/Status: preliminary; translated from GB/EMBL/DBJ  
 A/Molecule type: mRNA  
 A/Residues: 1-27 <RES>  
 A/Cross-references: GB:M17594; NID:G204759; PIDN:AAA41390.1; PID:G204760  
 C/Superfamily: insulin  
 C/Keywords: alternative splicing  
 Query Match 84.4%; Score 508; DB 2; Length 181;  
 Best Local Similarity 88.7%; Pred. No. 4.1e-45;  
 Matches 94; Conservative 4; Mismatches 8; Indels 0; Gaps 0;  
 QY 1 GPEITCGALVDALQFCGDRGFYFNKPTGYGSSRRAPDTGIVDECCFSCDLRLIEMV 60  
 DB 49 GPEITCGALVDALQFCGDRGFYFNKPTGYGSSRRAPDTGIVDECCFSCDLRLIEMV 108  
 QY 61 CAPLPKAAARSVAQRHTDMPKTKQKQPSSTNKKMSQRRRKGST 106  
 DB 109 CAPLPKAAARSVAQRHTDMPKTKQKQPSSTNKKRLQRRRKGST 154  
 RESULT 5  
 IGEP1  
 Insulin-like growth factor I precursor - guinea pig  
 C/Species: Cavia porcellus (guinea pig)  
 C/Date: 30-Sep-1991 #sequence\_revision 30-Sep-1991 #text\_change 07-Nov-1997  
 C/Accession: S12719  
 R/Belli, G.I.; Stempien, M.M.; Pong, N.M.; Sano, S.  
 Nucleic Acids Res. 18, 4275-1990  
 A/Title: Sequence of a cDNA encoding guinea pig IGF-I.  
 A/Reference number: S12719; MUID:90332447; PMID:2377480  
 A/Accession: S12719  
 A/Molecule type: mRNA  
 A/Residues: 1-137 <BEL>  
 A/Cross-references: EMBL:X52951  
 A/Note: it is uncertain whether Met-1 or Met-8 is the initiator



C/Comment: The insulin-like growth factors, isolated from plasma, are structurally and #  
C/Comment: For an alternative splice form, see PIR:IGHUB.  
C/Genetics:  
A/Genes: GDB:IGF1  
A/Cross-references: GDB:120081; OMIM:147440  
A/Map position: 12q22-12q24.1  
A/Intron: 21/3; 74/1; 134/3  
C/Superfamily: Insulin  
C/Keywords: alternative splicing; growth factor; plasma  
F/1-21/Domain: signal sequence #status predicted <SIG>  
F/22-48/Domain: propeptide #status predicted <PRO>  
F/49-118/Domain: insulin-like growth factor I #status experimental <MAT>  
F/49-77/Domain: insulin chain B-like #status experimental <CHB>  
F/78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>  
F/90-110/Domain: insulin chain A-like #status experimental <CHA>  
F/111-118/Domain: D peptide #status experimental (B peptide) #status predicted <CPRO>  
F/119-153/Domain: carboxyl-terminal propeptide (B peptide) #status predicted  
F/154-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 77.2%; Score 465; DB 1; Length 153;  
Best Local Similarity 98.8%; Pred. No. 9,5e-41;  
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFYCGDGRGFYFNKPTGYGSSSRAPQGTIVDECCRSDDLRLLEY 60  
DB 49 GPEITCGAEIVDALQFYCGDGRGFYFNKPTGYGSSSRAPQGTIVDECCRSDDLRLLEY 108

QY 61 CAPLKPAAKASVVAQGRHTDMPKTK 86  
DB 109 CAPLKPAAKASVVAQGRHTDMPKTK 134

RESULT 8  
PN0632  
Insulin-like growth factor Ia precursor - dog (fragment)  
C/Species: Canis lupus familiaris (dog)  
C/Date: 10-Mar-1994 #sequence revision 10-Mar-1994 #text change 07-May-1999  
A/Accession: PN0632  
R/DelaFontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.  
Gene 130, 305-306, 1993  
A/Title: Sequence of a cDNA encoding dog insulin-like growth factor I.  
A/Reference number: PN0632; MUID:9336132; PMID:8359700  
A/Accession: PN0632  
A/Molecule type: mRNA  
A/Residues: 1-122 <DEL>  
C/Comment: This protein is a potent inducer of DNA synthesis in multiple cell types, act  
C/Genetics:  
A/Genes: IGF1a  
C/Superfamily: Insulin  
C/Keywords: growth factor  
F/20-89/Product: insulin-like growth factor Ia (fragment) #status predicted <MAT>

Query Match 76.4%; Score 460; DB 2; Length 122;  
Best Local Similarity 97.7%; Pred. No. 2,5e-40;  
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFYCGDGRGFYFNKPTGYGSSSRAPQGTIVDECCRSDDLRLLEY 60  
DB 20 GPEITCGAEIVDALQFYCGDGRGFYFNKPTGYGSSSRAPQGTIVDECCRSDDLRLLEY 79

QY 61 CAPLKPAAKASVVAQGRHTDMPKTK 86  
DB 80 CAPLKPAAKASVVAQGRHTDMPKTK 105

RESULT 9  
IGBO1  
Insulin-like growth factor IA precursor - bovine (fragment)  
N/Alternate names: IGF-I; somatomedin C  
C/Species: Bos primigenius taurus (cattle)  
C/Date: 31-Mar-1988 #sequence revision 28-Apr-1995 #text change 18-Jun-1999  
A/Accession: S12672; A25623; S00465  
R/Fotstein, T.; Murphy, C.; Gannon, F.

Nucleic Acids Res. 18, 676, 1990  
A/Title: Nucleotide sequence of the bovine insulin-like growth factor I (IGF-I) and  
A/Reference number: S12672; MUID:9015014; PMID:2308858  
A/Accession: S12672  
A/Molecule type: mRNA  
A/Residues: 1-153 <FOR>  
A/Cross-references: EMBL:X15726; NID:9454; PIDN:CA33746.1; PID:9455  
A/Experimental source: liver  
R/Honegger, A.; Humbel, R.E.  
J. Biol. Chem. 261, 569-575, 1986  
A/Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purif  
A/Reference number: A2585; MUID:8608581; PMID:3941093  
A/Accession: A25623  
A/Molecule type: protein  
A/Residues: 49-118 <RON>  
R/Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.  
Biochem. J. 251, 95-103, 1988  
A/Title: Insulin-like growth factors I and 2 in bovine colostrum. Sequences and biol  
A/Reference number: S00465; MUID:8826820; PMID:3390164  
A/Accession: S00465  
A/Molecule type: protein  
A/Residues: 49-118 <FPA>  
A/Experimental source: colostrum  
A/Note: a form of IGF-I lacking the first three residues and possessing enhanced bio  
C/Superfamily: Insulin  
C/Keywords: alternative splicing; colostrum; growth factor; plasma  
F/1-20/Domain: signal sequence (fragment) #status predicted <SIG>  
F/22-48/Domain: propeptide #status predicted <PRO>  
F/49-118/Domain: insulin-like growth factor Ia (active) #status experimental <MAT>  
F/49-77/Domain: insulin chain B-like #status experimental <DOB>  
F/78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>  
F/90-110/Domain: insulin chain A-like #status experimental <CHA>  
F/111-118/Domain: D peptide #status experimental (B peptide) #status predicted <CPRO>  
F/119-153/Domain: carboxyl-terminal propeptide (B peptide) #status predicted  
F/154-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 76.4%; Score 460; DB 1; Length 153;  
Best Local Similarity 97.7%; Pred. No. 3,1e-40;  
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFYCGDGRGFYFNKPTGYGSSSRAPQGTIVDECCRSDDLRLLEY 60  
DB 49 GPEITCGAEIVDALQFYCGDGRGFYFNKPTGYGSSSRAPQGTIVDECCRSDDLRLLEY 108

QY 61 CAPLKPAAKASVVAQGRHTDMPKTK 86  
DB 109 CAPLKPAAKASVVAQGRHTDMPKTK 134

RESULT 10  
S12825  
Insulin-like growth factor I precursor - pig  
N/Alternate names: somatomedin C  
C/Species: Sus scrofa domestica (domestic pig)  
C/Date: 13-Jan-1995 #sequence revision 13-Jan-1995 #text change 16-Jul-1999  
A/Accession: S12825; S21488; A34938; A60738  
R/Mueller, M.; Brem, G.  
Nucleic Acids Res. 18, 364, 1990  
A/Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated  
A/Reference number: S12825; MUID:90221822; PMID:2326169  
A/Accession: S12825  
A/Status: preliminary  
A/Molecule type: DNA  
A/Residues: 1-153 <MTB>  
A/Cross-references: EMBL:X52388  
R/Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.  
submitted to the EMBL Data Library, November 1989  
A/Description: Porcine insulin-like growth factor gene: sequence of exon and 5' non-c  
A/Accession: S21488  
A/Molecule type: DNA  
A/Residues: 1-21 <DIC>  
A/Cross-references: EMBL:X17638; NID:91995; PIDN:CA35632.1; PID:91996

R/Tavakkol, A.; Simmen, F.A.; Simmen, R.C.M.  
 Mol. Endocrinol. 2, 674-681, 1988  
 A>Title: Porcine insulin-like growth factor-I (IGF-I): complementary deoxyribonucleic acid.  
 A:Reference number: A34938; PMID:89096956; PMID:3211153  
 A:Accession: A34938  
 A:Molecule type: mRNA  
 A:Residues: 'Y', 21-153 <TAV>  
 A:Cross-references: GB:M31175  
 R/Francis, G.L.; Owens, P.C.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.  
 J. Endocrinol. 122, 681-687, 1989  
 A>Title: Purification, amino acid sequences and assay cross-reactivities of porcine insulin.  
 A:Reference number: A60738; PMID:90039035; PMID:2809477  
 A:Accession: A60738  
 A:Molecule type: protein  
 A:Residues: 49-117, 'X' <FRA>  
 C:Genetics:  
 A:Introns: 21/3; 74/1  
 C:Superfamily: Insulin  
 C:Keywords: growth factor  
 F:1-22/Domain: signal sequence #status predicted <SIG>  
 F:23-48/Domain: propeptide #status predicted <PRO>  
 F:49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match 76.4%; Score 460; DB 2; Length 153;  
 Best Local Similarity 97.7%; Pred. No. 3, 1e-40;  
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYSSRRAPQGTGIVDECCFRSCDLRLRLMY 60  
 DB 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYSSRRAPQGTGIVDECCFRSCDLRLRLMY 108  
 61 CAPLPKAKARSVRARHTDMPKAK 86  
 DB 109 CAPLPKAKARSVRARHTDMPKAK 134

## RESULT 11

JC2483  
 Insulin-like growth factor-I precursor - goat  
 C:Species: Capra aegagrus hircus (domestic goat)  
 C>Date: 16-Mar-1995 #sequence\_revision 26-May-1995 #text\_change 17-Mar-1999  
 C:Accession: JC2483  
 R/Nikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.  
 Biosci. Biotechnol. Biochem. 59, 87-92, 1995  
 A>Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF-I).  
 A:Reference number: JC2483; PMID:95201385; PMID:7765981  
 A:Accession: JC2483  
 A:Molecule type: mRNA  
 A:Residues: 1-154 <MIK>  
 A:Cross-references: GB:S11378; DDBJ:D26116; DDBJ:D26117; DDBJ:D26118; DDBJ:D26119  
 C:Genetics:  
 A:Introns: 21/3; 75/1; 135/3  
 C:Superfamily: Insulin  
 F:1-49/Domain: signal sequence #status predicted <SIG>  
 F:50-119/Product: insulin-like growth factor-I #status predicted <MAT>  
 F:120-154/Region: E domain

Query Match 75.7%; Score 456; DB 2; Length 154;  
 Best Local Similarity 96.5%; Pred. No. 8, 1e-40;  
 Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYSSRRAPQGTGIVDECCFRSCDLRLRLMY 60  
 DB 50 GPEITCGAELVDALQFVCGDRGFYFNKPTGYSSRRAPQGTGIVDECCFRSCDLRLRLMY 109  
 61 CAPLPKAKARSVRARHTDMPKAK 86  
 DB 110 CAPLPKAKARSVRARHTDMPKAK 135

## RESULT 12

S22878

Insulin-like growth factor I precursor, splice form 2 - sheep  
 C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)  
 C>Date: 23-Apr-1999 #sequence\_revision 23-Apr-1999 #text\_change 23-Jul-1999  
 C:Accession: S22878; PMID:90039035; PMID:2537174  
 R/Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.  
 J. Mol. Endocrinol. 6, 17-31, 1991  
 A>Title: The ovine insulin-like growth factor-I gene: characterization, expression and its regulation.  
 A:Reference number: S22878; PMID:91197361; PMID:2015053  
 A:Accession: S22878  
 A:Molecule type: DNA  
 A:Status: preliminary  
 A:Residues: 1138 <DIC>  
 A:Cross-references: EMBL:X51358  
 R/Francis, G.L.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.  
 Endocrinology 124, 1173-1183, 1989  
 A>Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.  
 A:Reference number: S07198; PMID:89136887; PMID:2537174  
 A:Accession: S07198  
 A:Molecule type: protein  
 A:Residues: 34-103 <FRA>  
 A:Experimental source: fetal plasma  
 C:Genetics:  
 A:Introns: 5/3; 59/1; 119/3  
 C:Superfamily: Insulin  
 C:Keywords: alternative splicing; growth factor; plasma  
 F:7-33/Domain: propeptide #status predicted <PRO>  
 F:34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>  
 F:34-66/Domain: insulin chain B-like #status predicted <DOB>  
 F:67-74/Domain: insulin connecting peptide-like #status predicted <CHC>  
 F:75-95/Domain: insulin chain A-like #status predicted <DOA>  
 F:96-103/Domain: propeptide D #status predicted <CHD>  
 F:104-138/Domain: carboxyl-terminal propeptide (B peptide) #status predicted <CTP>  
 F:139-81, 51-94, 80-85/Disulfide bonds: #status predicted

Query Match 75.1%; Score 452; DB 2; Length 138;  
 Best Local Similarity 96.5%; Pred. No. 1, 9e-39;  
 Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYSSRRAPQGTGIVDECCFRSCDLRLRLMY 60  
 DB 34 GPEITCGAELVDALQFVCGDRGFYFNKPTGYSSRRAPQGTGIVDECCFRSCDLRLRLMY 93  
 61 CAPLPKAKARSVRARHTDMPKAK 86  
 DB 94 CAPLPKAKARSVRARHTDMPKAK 119

## RESULT 13

A33390  
 Insulin-like growth factor I precursor, splice form 1 - sheep  
 N:Alternate names: somatomedin C  
 C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)  
 C>Date: 109-Mar-1990 #sequence\_revision 27-Feb-1997 #text\_change 23-Jul-1999  
 C:Accession: S22877; A33390; S07965; S07198  
 R/Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.  
 J. Mol. Endocrinol. 6, 17-31, 1991  
 A>Title: The ovine insulin-like growth factor-I gene: characterization, expression and its regulation.  
 A:Reference number: S22877; PMID:91197361; PMID:2015053  
 A:Accession: S22877  
 A:Molecule type: DNA  
 A:Residues: 1-154 <DIC>  
 A:Cross-references: EMBL:X51358  
 R/Wong, E.A.; Olsen, S.M.; Godfredson, J.A.; Dean, D.M.; Wheaton, J.E.  
 DNA 8, 649-657, 1989  
 A>Title: Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity in the mRNA I and II.  
 A:Reference number: A33390; PMID:90126234; PMID:2575490  
 A:Accession: A33390  
 A:Molecule type: mRNA  
 A:Residues: 1-43, 'SS', 46-154 <WON>  
 A:Cross-references: GB:M30653; NID:G165929; PIDN:AAA00532.1; PID:G165930  
 R/Hey, A.W.; Browne, C.A.; Simpson, R.J.; Inoué, G.D.  
 Biochim. Biophys. Acta 997, 27-35, 1989  
 A>Title: Simultaneous isolation of insulin-like growth factors I and II from adult sheep



A:Reference number: S04972; MUID:69323215; PMID:2752053  
A:Accession: S07965  
A:Molecule type: protein  
A:Residues: 50-79 <HR>  
R:Francis, G.L.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.  
Endocrinology 124, 1173-1183, 1989  
A:Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.  
A:Reference number: S07198; MUID:69136887; PMID:2537174  
A:Accession: S07198  
A:Molecule type: protein  
A:Residues: 50-119 <FRA>  
A:Experimental source: fetal plasma  
C:Genetics:  
A:Introns: 21/3; 75/1; 135/3  
C:Superfamily: insulin  
C:Keywords: alternative splicing; growth factor; plasma  
F:1-21/Domain: signal sequence #status predicted <SIG>  
F:22-49/Domain: propeptide #status predicted <PRO>  
F:50-119/Product: insulin-like growth factor I (active) #status experimental <MAT>  
F:50-78/Domain: insulin chain B-like #status predicted <DOB>  
F:79-90/Domain: insulin connecting peptide-like #status predicted <DOC>  
F:91-111/Domain: insulin chain A-like #status predicted <DOA>  
F:112-119/Domain: peptide D #status predicted <CHD>  
F:120-154/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>  
F:55-97,67-110,96-101/Distal flide bonds: #status predicted

Query Match 75.1%; Score 452; DB 2; Length 154;  
Best Local Similarity 96.5%; Pred. No. 2, 1e-39;  
Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQVCGRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLRLEMY 60  
DB 50 GPEITCGAEIVDALQVCGRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLRLEMY 109  
DB 61 CAPLKPAKARSYRAQRHTDMPKTK 86  
DB 110 CAPLKPAKARSYRAQRHTDMPKTK 135

## RESULT 14

A25540

insulin-like growth factor IA precursor - mouse

N:Alternate names: IGF-1A; somatomedin C

C:Species: Mus musculus (house mouse)

C:Date: 30-Jun-1988 #sequence, revision 30-Jun-1988 #text, change 16-Jul-1999

C:Accession: A25540; 155295; 159090; B25540

R:Beil, G.I.; Stempien, M.M.; Fong, N.M.; Rall, L.B.

Nucleic Acids Res. 14, 7873-7882, 1986

A:Title: Sequences of liver cDNAs encoding two different mouse insulin-like growth factors

A:Reference number: A93643; MUID:87040760; PMID:3774549

A:Accession: A25540

A:Molecule type: mRNA

A:Residues: 1-127 &lt;BEL&gt;

A:Cross-references: GB:X04480; NID:951801; PIDN:CAA28168.1; PID:951802

R:Collfensen, S.E.; Laajala, R.; McCusker, R.H.; Clemmons, D.R.; Rotwein, P.

J. Biol. Chem. 264, 13810-13817, 1989

A:Title: Insulin-like growth factors (IGF) in muscle development. Expression of IGF-I, II

A:Reference number: 155295; MUID:89340472; PMID:2474537

A:Accession: 155295

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: DNA

A:Residues: 49-108 &lt;RES&gt;

A:Cross-references: GB:M28139; NID:9341835; PIDN:AAA74553.1; PID:9550489

R:Mathews, L.S.; Norstedt, G.; Palminter, R.D.

Proc. Natl. Acad. Sci. U.S.A. 83, 9343-9347, 1986

A:Title: Regulation of insulin-like growth factor I gene expression by growth hormone.

A:Reference number: 159090; MUID:87092249; PMID:3467309

A:Accession: 159090

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: DNA

A:Residues: 49-108 &lt;RES&gt;

A:Cross-references: GB:M14983; NID:9194495; PIDN:AAA37925.1; PID:9194496

C:Genetics:

A:Gene: Igf1  
C:Superfamily: insulin  
C:Keywords: alternative splicing; growth factor  
F:1-22/Domain: signal sequence #status predicted <SIG>  
F:23-127/Product: insulin-like growth factor IA (active) #status predicted <MAT>  
F:23-51/Domain: insulin chain B-like #status predicted <DOB>  
F:52-63/Domain: insulin connecting C peptide-like #status predicted <DOC>  
F:64-84/Domain: insulin chain A-like #status predicted <DOA>  
F:85-92/Domain: insulin chain A-like #status predicted <CHD>  
F:93-127/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>

Query Match 74.8%; Score 450; DB 2; Length 127;  
Best Local Similarity 95.3%; Pred. No. 2, 8e-39;  
Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQVCGRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLRLEMY 60  
DB 23 GPEITCGAEIVDALQVCGRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLRLEMY 82  
QY 61 CAPLKPAKARSYRAQRHTDMPKTK 86  
DB 83 CAPLKPAKARSYRAQRHTDMPKTK 108

## RESULT 15

B27804

insulin-like growth factor IA precursor - rat

N:Alternate names: IGF-1A; somatomedin C

C:Species: Rattus norvegicus (Norway rat)

C:Date: 16-Mar-1989 #sequence, revision 16-Mar-1989 #text, change 21-Jul-2000

C:Accession: B27804; A27849; J0133; A28504; J00088; A32857; A61096

R:Shimatsu, A.; Rotwein, P.

J. Biol. Chem. 262, 7894-7900, 1987

A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence,

A:Reference number: A27804; MUID:8722423; PMID:3034909

A:Accession: B27804

A:Molecule type: DNA

A:Residues: 1-153 &lt;SHI&gt;

A:Cross-references: GB:M15651; GB:J02743; NID:9204297; PIDN:AAA41215.1; PID:9204300

R:Casella, S.U.; Smith, E.P.; Van Wyk, J.J.; Joseph, D.R.; Hynes, M.A.; Hoyt, E.C.; La

DNA 6, 325-330, 1987

A:Title: Isolation of rat testis cDNAs encoding an insulin-like growth factor I precursor

A:Reference number: A27849; MUID:88003970; PMID:3652906

A:Accession: A27849

A:Molecule type: mRNA

A:Residues: 27-153 &lt;CAS&gt;

A:Cross-references: GB:M17335; NID:9204751; PIDN:AAA41386.1; PID:9204752

R:Kato, H.; Okoshi, A.; Miura, Y.; Noguchi, T.

Agric. Biol. Chem. 54, 1599-1601, 1990

A:Title: A new cDNA clone relating to larger molecular species of rat insulin-like growth factor

A:Reference number: J0133; MUID:91103966; PMID:1368571

A:Accession: J0133

A:Molecule type: mRNA

A:Residues: 27-153 &lt;KAT&gt;

A:Cross-references: GB:J000698; NID:9220780; PIDN:BA00604.1; PID:9220781

A:Experimental source: liver

R:Murphy, U.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.

Endocrinology 121, 684-691, 1987

A:Title: Identification, characterization, and regulation of a rat complementary deoxy

A:Reference number: A28504; MUID:87246437; PMID:3595538

A:Accession: A28504

A:Molecule type: mRNA

A:Residues: 48-153 &lt;KUR&gt;

A:Cross-references: GB:M17714; NID:9204324; PIDN:AAA41227.1; PID:9204325

R:Kato, H.; Takemura, A.; Miura, Y.; Nishiyama, M.; Noguchi, T.

Agric. Biol. Chem. 54, 2225-2230, 1990

A:Title: Evidence of interconversion by molecular cloning of artificial inverted sequence

A:Reference number: J00088; MUID:91136779; PMID:1368576

A:Accession: J00088

A:Molecule type: mRNA

A:Residues: 22-153 &lt;KA2&gt;

A:Experimental source: liver

A:Note: the authors present evidence that this mRNA may contain an artifactual invers:

R; Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Nawa, M.  
 J. Biol. Chem. 264, 5616-5621, 1989  
 A>Title: Primary structure of rat insulin-like growth factor-I and its biological activity  
 A;Reference number: A32857; MUID:89174609; PMID:2538424  
 A;Accession: A32857  
 A;Molecule type: protein  
 A;Residues: 49-118 <TM>  
 R;Canalis, E.; McCarthy, T.; Centrella, M.  
 Endocrinology 122, 22-27, 1988  
 A>Title: Isolation and characterization of insulin-like growth factor I (somatomedin-C)  
 A;Reference number: A61096; MUID:88082445; PMID:3335205  
 A;Accession: A61096  
 A;Molecule type: protein  
 A;Residues: 49-53, X', 55-65 <CAN>  
 C;Superfamily: insulin  
 C;Keywords: alternative splicing; growth factor  
 P;49-118/Product: insulin-like growth factor I #status experimental <ILG>

Query Match 74.3%; Score 447; DB 2; Length 153;  
 Best Local Similarity 94.2%; Pred. No. 6, 8e-39;  
 Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;  
 QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQITGVDECCFRSCDLRLRLEY 60  
 DB 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQITGVDECCFRSCDLRLRLEY 108  
 QY 61 CAPLKPAAARSVRARHTDMPKTK 86  
 DB 109 CAPLKPAAARSVRARHTDMPKTK 134

Search completed: March 3, 2004, 07:56:14  
 Job time : 11.7018 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:55:33 ; Search time 151.455 Seconds  
(without alignments)  
154.752 Million cell updates/sec

Title: US-09-852-261-6

Perfect score: 602

Sequence: 1 GPETLCAELVDALQFVCGD.....TNKKMSQRRKSGSTFEERK 111

Scoring table:

BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 809742 seqs, 21153259 residues

Total number of hits satisfying chosen parameters: 809742

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :

Published Applications\_AA:\*

- 1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep:\*
- 2: /cgn2\_6/ptodata/1/pubpaa/PC7\_NEW\_PUB.pep:\*
- 3: /cgn2\_6/ptodata/1/pubpaa/US06\_NEW\_PUB.pep:\*
- 4: /cgn2\_6/ptodata/1/pubpaa/US06\_PUBCOMB.pep:\*
- 5: /cgn2\_6/ptodata/1/pubpaa/US07\_NEW\_PUB.pep:\*
- 6: /cgn2\_6/ptodata/1/pubpaa/PC7\_NEW\_PUB.pep:\*
- 7: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pep:\*
- 8: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pep:\*
- 9: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep:\*
- 10: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep:\*
- 11: /cgn2\_6/ptodata/1/pubpaa/US09\_NEW\_PUB.pep:\*
- 12: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep:\*
- 13: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep:\*
- 14: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep:\*
- 15: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep:\*
- 16: /cgn2\_6/ptodata/1/pubpaa/US60\_NEW\_PUB.pep:\*
- 17: /cgn2\_6/ptodata/1/pubpaa/US60\_PUBCOMB.pep:\*
- 18: /cgn2\_6/ptodata/1/pubpaa/US60\_PUBCOMB.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	602	100.0	111	9	US-09-852-261-6 Sequence 6, Appli
2	572.5	95.1	110	9	US-09-852-261-6 Sequence 2, Appli
3	539	89.5	133	14	US-10-141-088-2 Sequence 20, Appli
4	536	89.0	195	15	US-10-443-466A-20 Sequence 4, Appli
5	512	85.0	111	9	US-09-852-261-6 Sequence 14, Appli
6	468	77.7	105	9	US-09-852-261-14 Sequence 10, Appli
7	465	77.2	105	9	US-09-852-261-10 Sequence 8, Appli
8	465	77.2	137	14	US-10-251-661-8 Sequence 74, Appli
9	465	77.2	153	9	US-09-919-497-74 Sequence 3, Appli
10	465	77.2	153	14	US-10-136-639-3 Sequence 55, Appli
11	465	77.2	153	14	US-10-207-655-55 Sequence 3, Appli
12	460	76.4	105	14	US-10-238-114-3 Sequence 2, Appli
13	460	76.4	153	14	US-10-238-114-2 Sequence 41, Appli
14	454.5	75.5	191	9	US-09-921-398-41 Sequence 41, Appli
15	454.5	75.5	191	14	US-10-280-826-41 Sequence 41, Appli

15	420	69.8	105	9	US-09-852-261-12	Sequence 12, Appli
17	383	63.6	953	14	US-10-241-596-14	Sequence 14, Appli
18	382	63.5	70	9	US-09-848-664-23	Sequence 29, Appli
19	382	63.5	70	9	US-09-848-664-30	Sequence 30, Appli
20	382	63.5	70	9	US-09-903-327A-8	Sequence 8, Appli
21	382	63.5	70	9	US-09-858-935B-3	Sequence 3, Appli
22	382	63.5	70	13	US-10-028-410-1	Sequence 1, Appli
23	382	63.5	70	13	US-10-066-009A-1	Sequence 1, Appli
24	382	63.5	70	14	US-10-136-639-1	Sequence 7, Appli
25	382	63.5	70	14	US-10-136-841-7	Sequence 1, Appli
26	382	63.5	70	14	US-10-444-326-1	Sequence 7, Appli
27	382	63.5	70	15	US-10-272-531A-7	Sequence 7, Appli
28	382	63.5	70	15	US-10-272-483A-7	Sequence 7, Appli
29	382	63.5	70	16	US-10-444-262-1	Sequence 1, Appli
30	382	63.5	118	14	US-10-179-046-14	Sequence 14, Appli
31	382	63.5	155	9	US-09-921-398-39	Sequence 39, Appli
32	382	63.5	155	14	US-10-280-826-39	Sequence 39, Appli
33	382	63.5	510	9	US-09-903-327A-12	Sequence 12, Appli
34	375	62.3	91	14	US-10-323-046-42	Sequence 42, Appli
35	314	52.2	68	14	US-10-339-740-218	Sequence 57, Appli
36	300	49.8	56	13	US-10-066-009A-5	Sequence 57, Appli
37	235	39.0	180	14	US-10-207-655-57	Sequence 57, Appli
38	232	38.5	156	9	US-09-972-809-7	Sequence 7, Appli
39	232	38.5	180	14	US-10-081-113-38	Sequence 38, Appli
40	232	38.5	180	14	US-10-136-841-2	Sequence 2, Appli
41	232	38.5	180	14	US-10-097-340-145	Sequence 145, Appli
42	232	38.5	180	15	US-10-295-027-199	Sequence 199, Appli
43	232	38.5	180	15	US-10-272-531A-2	Sequence 2, Appli
44	232	38.5	180	15	US-10-173-999-99	Sequence 99, Appli
45	232	38.5	180	15	US-10-272-483A-2	Sequence 2, Appli

#### ALIGNMENTS

RESULT 1  
US-09-852-261-6  
Sequence 6, Application US/09852261  
Patent No. US20020083477A1  
GENERAL INFORMATION:  
APPLICANT: GOLDSPIRK, GEOFFREY  
APPLICANT: TERENCE, GIORGIO  
TITLE OF INVENTION: REPAIR OF NERVE DAMAGE  
FILE REFERENCE: 117-351  
CURRENT FILING DATE: 2001-05-10  
CURRENT APPLICATION NUMBER: US/09/852,261  
PRIOR FILING DATE: 2000-05-10  
PRIOR APPLICATION NUMBER: GB 0011278.9  
NUMBER OF SEQ ID NOS: 14  
SOFTWARE: Patentin Ver. 2.1  
SEQ ID NO 6  
LENGTH: 111  
TYPE: PRT  
ORGANISM: Oryctolagus cuniculus  
US-09-852-261-6

Query Match 100.0%; Score 602; DB 9; Length 111;  
Best Local Similarity 100.0%; Pred. No. 7.7e-61;  
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
OY 1 GPETLCAELVDALQFVCGDGFYFNKPTGYGSSRRAPQTGIVDECCFRSCLRLLEY 60  
DB 1 GPETLCAELVDALQFVCGDGFYFNKPTGYGSSRRAPQTGIVDECCFRSCLRLLEY 60  
OY 61 CAPLKPKAARSVRACHTMPKTOKQOPSTTKKRSQRRKSGSTFEERK 111  
DB 61 CAPLKPKAARSVRACHTMPKTOKQOPSTTKKRSQRRKSGSTFEERK 111  
RESULT 2  
US-09-852-261-2  
Sequence 2, Application US/09852261  
Patent No. US20020083477A1

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/ GENERAL INFORMATION:
/ APPLICANT: GOLDSPIK, GEOFFREY
/ APPLICANT: TERENGT, GIORGIO
/ TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
/ FILE REFERENCE: 117-351
/ CURRENT APPLICATION NUMBER: US/09/852,261
/ PRIOR FILING DATE: 2001-05-10
/ PRIOR FILING DATE: 2000-05-10
/ NUMBER OF SEQ ID NOS: 14
/ SOFTWARE: Patentn Ver. 2.1
/ SEQ ID NO 2
/ LENGTH: 110
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-09-852-261-2
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Query Match          95.1%; Score 572.5; DB 9; Length 110;
Best Local Similarity 96.4%; Pred. No. 1.8e-57;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;
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QY      1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLLEY 60
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DB      1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLLEY 60

QY      61 CAPLKPAAKARSVRAQRHTDMPKTOXQPPSTNKKXKSQRKRGSTFEEHK 111
      |||
DB      61 CAPLKPAAKARSVRAQRHTDMPKTOXQPPSTNKKXKSQRKRGSTFEEHK 110
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RESULT 3
US-10-161-088-2
/ Sequence 2, Application US/10161088
/ Publication No. US2003007761A1
/ GENERAL INFORMATION:
/ APPLICANT: Parcy, Vendela
/ APPLICANT: Rosenstren, Linda
/ TITLE OF INVENTION: NEW METHODS
/ FILE REFERENCE: 13425-111001
/ CURRENT APPLICATION NUMBER: US/10/161,088
/ PRIOR FILING DATE: 2002-05-31
/ PRIOR FILING DATE: 2001-06-01
/ NUMBER OF SEQ ID NOS: 3
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 2
/ LENGTH: 133
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-10-161-088-2
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Query Match          89.5%; Score 539; DB 14; Length 133;
Best Local Similarity 91.0%; Pred. No. 1.4e-53;
Matches 101; Conservative 1; Mismatches 9; Indels 0; Gaps 0;
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QY      1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLLEY 60
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DB      23 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLLEY 82

QY      61 CAPLKPAAKARSVRAQRHTDMPKTOXQPPSTNKKXKSQRKRGSTFEEHK 111
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DB      83 CAPLKPAAKARSVRAQRHTDMPKTOXQPPSTNKKXKSQRKRGSTFEEHK 133
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RESULT 4
US-10-443-466A-20
/ Sequence 20, Application US/10443466A
/ Publication No. US20040018191A1
/ GENERAL INFORMATION:
/ APPLICANT: Wang, Yan
/ APPLICANT: Pachter, Jonathan A
/ APPLICANT: Hailey, Judith
/ APPLICANT: Greenberg, Robert
```

```
/ APPLICANT: Leonard, Prestia
/ APPLICANT: Brams, Peter
/ APPLICANT: Reingerst, Diane
/ APPLICANT: Williams, Denise
/ APPLICANT: Srinivasan, Mohan
/ TITLE OF INVENTION: NEUTRALIZING HUMAN ANTI-IGFR ANTIBODY
/ FILE REFERENCE: OC01533-K-US
/ CURRENT APPLICATION NUMBER: US/10/443,466A
/ PRIOR FILING DATE: 2003-05-22
/ PRIOR FILING DATE: 2002-05-24
/ PRIOR FILING DATE: 2002-07-02
/ PRIOR FILING DATE: 2002-07-02
/ PRIOR FILING DATE: 2002-12-23
/ NUMBER OF SEQ ID NOS: 120
/ SOFTWARE: Patentn version 3.1
/ SEQ ID NO 20
/ LENGTH: 195
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-10-443-466A-20
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Query Match          89.0%; Score 536; DB 15; Length 195;
Best Local Similarity 96.1%; Pred. No. 5e-53;
Matches 98; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
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QY      1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLLEY 60
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QY      61 CAPLKPAAKARSVRAQRHTDMPKTOXQPPSTNKKXKSQRK 102
      |||
DB      109 CAPLKPAAKARSVRAQRHTDMPKTOXQPPSTNKKXKSQRK 150
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```
RESULT 5
US-09-852-261-4
/ Sequence 4, Application US/09852261
/ Patent No. US20020083477A1
/ GENERAL INFORMATION:
/ APPLICANT: GOLDSPIK, GEOFFREY
/ APPLICANT: TERENGT, GIORGIO
/ TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
/ FILE REFERENCE: 117-351
/ CURRENT APPLICATION NUMBER: US/09/852,261
/ PRIOR FILING DATE: 2001-05-10
/ PRIOR FILING DATE: 2000-05-10
/ NUMBER OF SEQ ID NOS: 14
/ SOFTWARE: Patentn Ver. 2.1
/ SEQ ID NO 4
/ LENGTH: 111
/ TYPE: PRT
/ ORGANISM: Rattus sp.
US-09-852-261-4
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Query Match          85.0%; Score 512; DB 9; Length 111;
Best Local Similarity 86.5%; Pred. No. 1.4e-50;
Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;
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QY      1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLLEY 60
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DB      1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLLEY 60

QY      61 CAPLKPAAKARSVRAQRHTDMPKTOXQPPSTNKKXKSQRKRGSTFEEHK 111
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DB      61 CVRCKPTKASIRAPQHTDMPKTOXQPPSTNKKXKSQRKRGSTFEEHK 111
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RESULT 6
US-09-852-261-14
/ Sequence 14, Application US/09852261
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Patent No. US20020083477A1  
GENERAL INFORMATION:  
APPLICANT: GOLDSPIK, GEOFFREY  
APPLICANT: TERENGTI, GIORGIO  
TITLE OF INVENTION: REPAIR OF NERVE DAMAGE  
FILE REFERENCE: 117-351  
CURRENT APPLICATION NUMBER: US/09/852,261  
CURRENT FILING DATE: 2001-05-10  
PRIOR APPLICATION NUMBER: GB 0011278.9  
PRIOR FILING DATE: 2000-05-10  
NUMBER OF SEQ ID NOS: 14  
SOFTWARE: PatentIn Ver. 2.1  
SEQ ID NO 14  
LENGTH: 105  
TYPE: PR  
ORGANISM: Oryctolagus cuniculus  
US-09-852-261-14

Query Match 77.2%; Score 468; DB 9; Length 105;  
Best Local Similarity 100.0%; Pred. No. 1.3e-45;  
Matches 85; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPELCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEY 60  
DB 1 GPELCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEY 60

QY 61 CAPLPAKARSVRAQRHTDMPKTOK 86  
DB 61 CAPLPAKARSVRAQRHTDMPKTOK 86

RESULT 7  
US-09-852-261-10  
Sequence 10, Application US/09852261  
Patent No. US20020083477A1  
GENERAL INFORMATION:  
APPLICANT: GOLDSPIK, GEOFFREY  
APPLICANT: TERENGTI, GIORGIO  
TITLE OF INVENTION: REPAIR OF NERVE DAMAGE  
FILE REFERENCE: 117-351  
CURRENT APPLICATION NUMBER: US/09/852,261  
CURRENT FILING DATE: 2001-05-10  
PRIOR APPLICATION NUMBER: GB 0011278.9  
PRIOR FILING DATE: 2000-05-10  
NUMBER OF SEQ ID NOS: 14  
SOFTWARE: PatentIn Ver. 2.1  
SEQ ID NO 10  
LENGTH: 105  
TYPE: PR  
ORGANISM: Homo sapiens  
US-09-852-261-10

Query Match 77.2%; Score 465; DB 9; Length 105;  
Best Local Similarity 98.8%; Pred. No. 2.9e-45;  
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPELCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEY 60  
DB 1 GPELCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEY 60

QY 61 CAPLPAKARSVRAQRHTDMPKTOK 86  
DB 61 CAPLPAKARSVRAQRHTDMPKTOK 86

RESULT 8  
US-10-251-661-8  
Sequence 8, Application US/10251661  
Publication No. US2003016555A1  
GENERAL INFORMATION:  
APPLICANT: Alberini, Cristina M.  
APPLICANT: Bear, Mark F.  
TITLE OF INVENTION: Methods and Compositions for Regulating

TITLE OF INVENTION: Memory Consolidation  
FILE REFERENCE: 3459.1001-003  
CURRENT APPLICATION NUMBER: US/10/251,661  
CURRENT FILING DATE: 2002-09-20  
PRIOR APPLICATION NUMBER: 60/193,614  
PRIOR FILING DATE: 2000-03-31  
PRIOR APPLICATION NUMBER: PCT/US01/10661  
PRIOR FILING DATE: 2001-04-02  
NUMBER OF SEQ ID NOS: 12  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 8  
LENGTH: 137  
TYPE: PR  
ORGANISM: Homo sapiens  
US-10-251-661-8

Query Match 77.2%; Score 465; DB 14; Length 137;  
Best Local Similarity 98.8%; Pred. No. 4e-45;  
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPELCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEY 60  
DB 33 GPELCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEY 92

QY 61 CAPLPAKARSVRAQRHTDMPKTOK 86  
DB 93 CAPLPAKARSVRAQRHTDMPKTOK 118

RESULT 9  
US-09-919-497-74  
Sequence 74, Application US/09919497  
Patent No. US2002010662A1  
GENERAL INFORMATION:  
APPLICANT: Muller, George L.  
TITLE OF INVENTION: PROGNOSTIC CLASSIFICATION OF ENDOMETRIAL CANCER  
FILE REFERENCE: B0801/7225  
CURRENT APPLICATION NUMBER: US/09/919,497  
CURRENT FILING DATE: 2001-07-31  
PRIOR APPLICATION NUMBER: US 60/221,735  
PRIOR FILING DATE: 2000-07-31  
NUMBER OF SEQ ID NOS: 100  
SOFTWARE: PatentIn Version 3.0  
SEQ ID NO 74  
LENGTH: 153  
TYPE: PR  
ORGANISM: Homo sapiens  
US-09-919-497-74

Query Match 77.2%; Score 465; DB 9; Length 153;  
Best Local Similarity 98.8%; Pred. No. 4.6e-45;  
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPELCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEY 60  
DB 49 GPELCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEY 108

QY 61 CAPLPAKARSVRAQRHTDMPKTOK 86  
DB 109 CAPLPAKARSVRAQRHTDMPKTOK 134

RESULT 10  
US-10-136-639-3  
Sequence 3, Application US/10136639  
Publication No. US20030072761A1  
GENERAL INFORMATION:  
APPLICANT: Lebowitz, Jonathan  
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS THE BLOOD  
FILE REFERENCE: STM-008  
CURRENT APPLICATION NUMBER: US/10/136,639  
CURRENT FILING DATE: 2002-09-06

PRIOR APPLICATION NUMBER: US 60/329,650  
 PRIOR FILING DATE: 2001-10-16  
 NUMBER OF SEQ ID NOS: 4  
 SOFTWARE: PatentIn version 3.0  
 SEQ ID NO 3  
 LENGTH: 153  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-136-639-3

Query Match 77.2%; Score 465; DB 14; Length 153;  
 Best Local Similarity 98.8%; Pred. No. 4,6e-45;  
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDRLRLMY 60  
 DB 49 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDRLRLMY 108

QY 61 CAPLKPAAKARSVRAQRHTDMPKTK 86  
 DB 109 CAPLKPAAKARSVRAQRHTDMPKTK 134

RESULT 11  
 US-10-207-655-55  
 Sequence 55, Application US/10207655  
 Publication No. US20030118592A1  
 GENERAL INFORMATION:  
 APPLICANT: Ledbetter, Jeffrey A.  
 APPLICANT: Hayden-Ledbetter, Martha S.  
 TITLE OF INVENTION: BINDING DOMAIN-IMMUNOGLOBULIN FUSION PROTEINS  
 FILE REFERENCE: 390069.401C1  
 CURRENT APPLICATION NUMBER: US/10/207,655  
 CURRENT FILING DATE: 2002-07-25  
 NUMBER OF SEQ ID NOS: 426  
 SOFTWARE: PatentIn version 3.0  
 SEQ ID NO 55  
 LENGTH: 153  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-207-655-55

Query Match 77.2%; Score 465; DB 14; Length 153;  
 Best Local Similarity 98.8%; Pred. No. 4,6e-45;  
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDRLRLMY 60  
 DB 49 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDRLRLMY 108

QY 61 CAPLKPAAKARSVRAQRHTDMPKTK 86  
 DB 109 CAPLKPAAKARSVRAQRHTDMPKTK 134

RESULT 12  
 US-10-238-114-3  
 Sequence 3, Application US/10238114  
 Publication No. US20030100073A1  
 GENERAL INFORMATION:  
 APPLICANT: Merital  
 APPLICANT: Andreoni, Christine Michele  
 TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST FELINE RH  
 FILE REFERENCE: 454313-3165.1  
 CURRENT APPLICATION NUMBER: US/10/238,114  
 CURRENT FILING DATE: 2002-09-10  
 PRIOR APPLICATION NUMBER: FR 01 11736  
 PRIOR FILING DATE: 2001-09-11  
 PRIOR APPLICATION NUMBER: US 60/318,666  
 PRIOR FILING DATE: 2001-09-12  
 NUMBER OF SEQ ID NOS: 20  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 3

LENGTH: 105  
 TYPE: PRT  
 ORGANISM: Felis catus  
 US-10-238-114-3

Query Match 76.4%; Score 460; DB 14; Length 105;  
 Best Local Similarity 97.7%; Pred. No. 1,1e-44;  
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDRLRLMY 60  
 DB 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDRLRLMY 60

QY 61 CAPLKPAAKARSVRAQRHTDMPKTK 86  
 DB 61 CAPLKPAAKARSVRAQRHTDMPKTK 86

RESULT 13  
 US-10-238-114-2  
 Sequence 2, Application US/10238114  
 Publication No. US20030100073A1  
 GENERAL INFORMATION:  
 APPLICANT: Merital  
 APPLICANT: Andreoni, Christine Michele  
 TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST FELINE  
 FILE REFERENCE: 454313-3165.1  
 CURRENT APPLICATION NUMBER: US/10/238,114  
 CURRENT FILING DATE: 2002-09-10  
 PRIOR APPLICATION NUMBER: FR 01 11736  
 PRIOR FILING DATE: 2001-09-11  
 PRIOR APPLICATION NUMBER: US 60/318,666  
 PRIOR FILING DATE: 2001-09-12  
 NUMBER OF SEQ ID NOS: 20  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 2  
 LENGTH: 153  
 TYPE: PRT  
 ORGANISM: Felis catus  
 US-10-238-114-2

Query Match 76.4%; Score 460; DB 14; Length 153;  
 Best Local Similarity 97.7%; Pred. No. 1,1e-44;  
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDRLRLMY 60  
 DB 49 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDRLRLMY 108

QY 61 CAPLKPAAKARSVRAQRHTDMPKTK 86  
 DB 109 CAPLKPAAKARSVRAQRHTDMPKTK 134

RESULT 14  
 US-09-921-398-41  
 Sequence 41, Application US/09921398  
 Patent No. US20020055169A1  
 GENERAL INFORMATION:  
 APPLICANT: Tekamp-Olson, Patricia  
 TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
 PROTEINS IN YEAST  
 NUMBER OF SEQUENCES: 41  
 CORRESPONDENCE ADDRESS:  
 ADDRESSER: Bell Seltzer IP Group of Alston & Bird, LLP  
 STREET: 3605 Glenwood Ave. Suite 310  
 CITY: Raleigh  
 STATE: NC  
 COUNTRY: US  
 ZIP: 27622  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/921.398  
FILING DATE: 02-Aug-2001  
CLASSIFICATION: <Unknown>  
ATTORNEY/AGENT INFORMATION:  
NAME: Spruill, W. Murray  
REGISTRATION NUMBER: 32,943  
REFERENCE/DOCKET NUMBER: 5784-4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 919 420 2202  
TELEFAX: 919 881 3175  
INFORMATION FOR SEQ ID NO: 41:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 191 amino acids  
TYPE: amino acid  
TOPOLOGY: 1:linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 41:  
US-09-921-398-41

Query Match 75.5%; Score 454.5; DB 9; Length 191;  
Best Local Similarity 97.7%; Pred. No. 9.4e-44;  
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

CY 1 GPETLCGAEIYDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIYDECCFRSCDLRLLEY 60  
DB 86 GPETLCGAEIYDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIYDECCFRSCDLRLLEY 145  
CY 61 CAPLKPAKAA-RSVRAQRHTMPKTK 86  
DB 146 CAPLKPAKAA-RSVRAQRHTMPKTK 172

## RESULT 15

US-10-280-826-41  
Sequence 41, Application US/10280826  
Publication No. US20030077831A1  
GENERAL INFORMATION:  
APPLICANT: Tekamp-Olsen, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
PROTEINS IN YEAST  
NUMBER OF SEQUENCES: 41  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
STREET: 3605 Glenwood Ave. Suite 310  
CITY: Raleigh  
STATE: NC  
COUNTRY: US  
ZIP: 27622  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/10/280.826  
FILING DATE: 25-Oct-2002  
CLASSIFICATION: <Unknown>  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/08/989.251  
FILING DATE: <Unknown>  
ATTORNEY/AGENT INFORMATION:  
NAME: Spruill, W. Murray  
REGISTRATION NUMBER: 32,943  
REFERENCE/DOCKET NUMBER: 5784-4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 919 420 2202  
TELEFAX: 919 881 3175  
INFORMATION FOR SEQ ID NO: 41:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 191 amino acids

TYPE: amino acid  
TOPOLOGY: 1:linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 41:  
US-10-280-826-41

Query Match 75.5%; Score 454.5; DB 14; Length 191;  
Best Local Similarity 97.7%; Pred. No. 9.4e-44;  
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

CY 1 GPETLCGAEIYDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIYDECCFRSCDLRLLEY 60  
DB 86 GPETLCGAEIYDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIYDECCFRSCDLRLLEY 145  
CY 61 CAPLKPAKAA-RSVRAQRHTMPKTK 86  
DB 146 CAPLKPAKAA-RSVRAQRHTMPKTK 172

Search completed: March 3, 2004, 08:14:24  
Job time: 152.455 secs

GenCore version 5.1.6  
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## OM protein - protein search, using sw model

Run on: March 3, 2004, 07:53:43 ; Search time 14.0422 Seconds  
(without alignments)  
408.091 Million cell updates/sec

Title: US-09-852-261-6

Perfect score: 602  
Sequence: 1 GPTLGCALVDALQFVCGD.....TKKKKSGRRKGSFRESHK 111

Scoring table:

BLOSUM62  
Gapop 10.0, Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%  
Listing first 45 summaries

## Database:

1: /cgn2\_6/prodata/2/1aa/5A\_COMB.pep:\*  
2: /cgn2\_6/prodata/2/1aa/5B\_COMB.pep:\*  
3: /cgn2\_6/prodata/2/1aa/5A\_COMB.pep:\*  
4: /cgn2\_6/prodata/2/1aa/5B\_COMB.pep:\*  
5: /cgn2\_6/prodata/2/1aa/PCUS\_COMB.pep:\*  
6: /cgn2\_6/prodata/2/1aa/DackTil1st1.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	602	100.0	121	3	US-09-142-583A-4
2	465	77.2	137	1	US-07-953-230A-10
3	465	77.2	152	3	US-08-950-720A-9
4	465	77.2	153	1	US-08-219-878A-1
5	465	77.2	153	5	PCT-US93-04329-1
6	465	77.2	156	3	US-09-142-583A-11
7	458	76.1	119	6	5405942-1
8	454.5	75.5	191	3	US-08-989-251-41
9	454.5	75.5	191	3	US-09-340-250-41
10	454.5	75.5	191	4	US-09-528-108-41
11	409	67.9	78	2	US-08-460-890A-47
12	409	67.9	78	3	US-08-167-641C-47
13	409	67.9	78	3	US-08-460-971A-47
14	409	67.9	78	3	US-08-462-040-47
15	398	66.1	176	1	US-07-953-230A-9
16	383	63.6	953	4	US-09-255-829-14
17	382	63.5	70	1	US-07-947-035-1
18	382	63.5	70	1	US-07-776-272-17
19	382	63.5	70	1	US-07-958-903A-17
20	382	63.5	70	1	US-08-462-018-17
21	382	63.5	70	1	US-08-823-245-17
22	382	63.5	70	1	US-08-482-271-1
23	382	63.5	70	3	US-09-080-120A-1
24	382	63.5	70	3	US-08-432-517-1
25	382	63.5	70	4	US-07-963-329A-1
26	382	63.5	70	4	US-09-477-924-1
27	382	63.5	70	4	US-09-723-981-1

28	382	63.5	70	4	US-09-723-896-1	Sequence 1, Appli
29	382	63.5	70	5	PCT-US92-09443A-1	Sequence 1, Appli
30	382	63.5	70	5	PCT-US93-11458-1	Sequence 1, Appli
31	382	63.5	70	5	PCT-US95-08925-1	Sequence 1, Appli
32	382	63.5	94	1	US-07-989-845-28	Sequence 28, Appli
33	382	63.5	94	1	US-07-989-844-12	Sequence 12, Appli
34	382	63.5	94	1	US-08-151-044-12	Sequence 12, Appli
35	382	63.5	94	1	US-08-240-121-12	Sequence 12, Appli
36	382	63.5	94	1	US-08-451-241-12	Sequence 12, Appli
37	382	63.5	94	5	PCT-US93-11297-12	Sequence 28, Appli
38	382	63.5	118	3	US-09-029-267-14	Sequence 18, Appli
39	382	63.5	155	1	US-08-328-961-8	Sequence 8, Appli
40	382	63.5	155	1	US-08-462-397-8	Sequence 8, Appli
41	382	63.5	155	3	US-08-969-251-39	Sequence 39, Appli
42	382	63.5	155	3	US-09-340-250-39	Sequence 39, Appli
43	382	63.5	155	4	US-09-528-108-39	Sequence 39, Appli
44	382	63.5	155	4	US-09-528-108-39	Sequence 39, Appli
45	379	63.0	70	1	US-08-180-572-5	Sequence 5, Appli

## ALIGNMENTS

RESULT 1  
US-09-142-583A-4  
; Sequence 4, Application US/09142583A  
; Patent No. 6221842

## GENERAL INFORMATION:

APPLICANT: GOLDSPIK, GEORGEY  
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: NIXON & VANDERHAYE P.C.  
STREET: 1100 NORTH GLEBE ROAD  
CITY: ARLINGTON  
STATE: VA  
COUNTRY: USA  
ZIP: 22201

## COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25

## CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/142,583A  
FILING DATE: 29-Oct-1998  
CLASSIFICATION: <Unknown>

## PRIOR APPLICATION DATA:

APPLICATION NUMBER: MO PCT/GB97/00658  
FILING DATE: 11-MAR-1997  
APPLICATION NUMBER: GB 9605124.8  
FILING DATE: 11-MAR-1996

## ATTORNEY/AGENT INFORMATION:

NAME: SADOFF, B. J.  
REGISTRATION NUMBER: 36663  
REFERENCE/DOCKET NUMBER: 117-263  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 7038164000  
TELEFAX: 7038164100

## INFORMATION FOR SEQ ID NO: 4:

SEQUENCE CHARACTERISTICS:  
LENGTH: 121 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 4:  
US-09-142-583A-4

Query/Match 100.0%; Score 602; DB 3; Length 121;  
Best Local Similarity 100.0%; Pred. No. 4.6e-64;  
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 GPTLGCALVDALQFVCGDGFYFNKPTGYSRRAPQTGIVDECCFNSCDLRLEMY 60



Db 11 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAAPQTGIVDECCFRSCDLRLLEMY 70  
QY 61 CAPLKPAKAAASVRAQRHTDMPKTKOYOPSITNKQMSORRRKSGSTPEERK 111  
71 CAPLKPAKAAASVRAQRHTDMPKTKOYOPSITNKQMSORRRKSGSTPEERK 121

RESULT 2  
US-07-953-230A-10  
; Sequence 10, Application US/07953230A  
; Patent No. 5478779  
; GENERAL INFORMATION:  
; APPLICANT: CHEN, Thomas T  
; APPLICANT: SHAMLOTT, Michael J  
; TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED  
; TITLE OF INVENTION: FROM RAINBOW TROUT  
; NUMBER OF SEQUENCES: 12  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Burns, Doane, Swecker & Mathis  
; STREET: George Mason Bldg., Washington & Prince Sts.  
; CITY: Alexandria  
; STATE: Virginia  
; COUNTRY: United States  
; ZIP: 22313-1404  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; OPERATING SYSTEM: IBM PC compatible  
; SOFTWARE: Patentin Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/953.230A  
; FILING DATE: 30-SEP-1992  
; CLASSIFICATION: 435  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Crane-Feury, Sharon E  
; REGISTRATION NUMBER: 36,113  
; REFERENCE/DOCKET NUMBER: 028755-010  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (703) 836-6620  
; TELEFAX: (703) 836-2021  
; INFORMATION FOR SEQ ID NO: 10:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 137 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; FEATURE:  
; NAME/KEY: Peptide  
; LOCATION: 7  
; OTHER INFORMATION: /note= "Gap of 2 after 7."  
; FEATURE:  
; NAME/KEY: Peptide  
; LOCATION: 31  
; OTHER INFORMATION: /note= "Gap of 1 after 31."  
; FEATURE:  
; NAME/KEY: Peptide  
; LOCATION: 116  
; OTHER INFORMATION: /note= "Gap of 27 after 116."  
US-07-953-230A-10

Query Match 77.2%; Score 465; DB 1; Length 137;  
Best Local Similarity 98.8%; Pred. No. 1e-47;  
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAAPQTGIVDECCFRSCDLRLLEMY 60  
DB 33 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAAPQTGIVDECCFRSCDLRLLEMY 92  
QY 61 CAPLKPAKAAASVRAQRHTDMPKTKO 86  
DB 93 CAPLKPAKAAASVRAQRHTDMPKTKO 118

RESULT 3  
US-08-950-720A-9  
; Sequence 9, Application US/08950720A  
; Patent No. 6046028  
; GENERAL INFORMATION:  
; APPLICANT: Conklin, Darrell C.  
; APPLICANT: Lofton-Day, Catherine E.  
; APPLICANT: Lok, Si  
; APPLICANT: Jaspers, Stephen R.  
; TITLE OF INVENTION: INSULIN HOMOLOG  
; NUMBER OF SEQUENCES: 17  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: ZymoGenetics, Inc.  
; STREET: 1201 Eastlake Avenue East  
; CITY: Seattle  
; STATE: WA  
; COUNTRY: USA  
; ZIP: 98102  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette  
; OPERATING SYSTEM: DOS  
; SOFTWARE: FastSeq for Windows Version 2.0  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/950.720A  
; FILING DATE:  
; CLASSIFICATION: 435  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER:  
; FILING DATE:  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Sawistak, Deborah A  
; REGISTRATION NUMBER: 37,438  
; REFERENCE/DOCKET NUMBER: 96-09  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 206-442-6672  
; TELEFAX: 206-442-6678  
; TELEEX:  
; INFORMATION FOR SEQ ID NO: 9:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 152 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: No. 6046028e  
US-08-950-720A-9

Query Match 77.2%; Score 465; DB 3; Length 152;  
Best Local Similarity 98.8%; Pred. No. 1.2e-47;  
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAAPQTGIVDECCFRSCDLRLLEMY 60  
DB 23 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAAPQTGIVDECCFRSCDLRLLEMY 82  
QY 61 CAPLKPAKAAASVRAQRHTDMPKTKO 86  
DB 83 CAPLKPAKAAASVRAQRHTDMPKTKO 108

RESULT 4  
US-08-219-878A-1  
; Sequence 1, Application US/08219878A  
; Patent No. 5473054  
; GENERAL INFORMATION:  
; APPLICANT: Bradford A. Jameson and Renato Baserga  
; TITLE OF INVENTION: IGF-1 Analogs  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Woodcock Washburn  
; ADDRESS: Kurtz Mackiewicz & No. 5473054r1s

STREET: One Liberty Place - 46th Floor  
CITY: Philadelphia  
STATE: PA  
COUNTRY: USA  
ZIP: 19103  
COMPUTER READABLE FORM:  
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 MB STORAGE  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: WORDPERFECT 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/219,878A  
FILING DATE: 30-MAR-1994  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/07/881,524  
FILING DATE: 08-MAY-1992  
ATTORNEY/AGENT INFORMATION:  
NAME: Mark Deluca  
REGISTRATION NUMBER: 33,229  
REFERENCE/DOCKET NUMBER: TJU-1240  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (215) 568-3100  
TELEFAX: (215) 568-3439  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 153  
TYPE: amino acid  
TOPOLOGY: linear  
US-08-219-878A-1

Query Match 77.2%; Score 465; DB 1; Length 153;  
Best Local Similarity 98.8%; Pred. No. 1.2e-47;  
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIYDECCFRSCDLRLMY 60  
DB 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIYDECCFRSCDLRLMY 108

QY 61 CAPLKPAAKSARSVRAQRHTDMPKTOK 86  
DB 109 CAPLKPAAKSARSVRAQRHTDMPKTOK 134

RESULT 5  
PCT-US93-04329-1  
Sequence 1, Application PC/TUS9304329  
GENERAL INFORMATION:  
APPLICANT: Bradford A. Jameson and Renato Baseaga  
TITLE OF INVENTION: IGF-1 Analogs  
NUMBER OF SEQUENCES: 7  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Woodcock Washburn  
STREET: Kurtz Mackiewicz & Norris  
CITY: Philadelphia  
STATE: PA  
COUNTRY: USA  
ZIP: 19103  
COMPUTER READABLE FORM:  
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 MB STORAGE  
COMPUTER: IBM PS/2  
OPERATING SYSTEM: PC-DOS  
SOFTWARE: WORDPERFECT 5.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US93/04329  
FILING DATE: 19930507  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 07/881,524  
FILING DATE: 08-MAY-92,  
ATTORNEY/AGENT INFORMATION:  
NAME: Mark Deluca

REGISTRATION NUMBER: 33,229  
REFERENCE/DOCKET NUMBER: TJU-0649  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (215) 568-3100  
TELEFAX: (215) 568-3439  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 153  
TYPE: AMINO ACID  
TOPOLOGY: linear  
PCT-US93-04329-1

Query Match 77.2%; Score 465; DB 5; Length 153;  
Best Local Similarity 98.8%; Pred. No. 1.2e-47;  
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIYDECCFRSCDLRLMY 60  
DB 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIYDECCFRSCDLRLMY 108

QY 61 CAPLKPAAKSARSVRAQRHTDMPKTOK 86  
DB 109 CAPLKPAAKSARSVRAQRHTDMPKTOK 134

RESULT 6  
US-09-142-583A-11  
Sequence 11, Application US/09142583A  
Patent No. 6221842  
GENERAL INFORMATION:  
APPLICANT: GOLDSPIK, GEOFFREY  
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: NIXON & VANDERHAYE P.C.  
STREET: 1100 NORTH GLEBE ROAD  
CITY: ARLINGTON  
STATE: VA  
COUNTRY: USA  
ZIP: 22201  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/142,583A  
FILING DATE: 29-Oct-1998  
CLASSIFICATION: <Unknown>  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: WO PCT/GB97/00658  
FILING DATE: 11-MAR-1997  
APPLICATION NUMBER: GB 9605124.8  
FILING DATE: 11-MAR-1996  
ATTORNEY/AGENT INFORMATION:  
NAME: SADOFF, B. J.  
REGISTRATION NUMBER: 36663  
REFERENCE/DOCKET NUMBER: 117-263  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 7038164000  
TELEFAX: 7038164100  
INFORMATION FOR SEQ ID NO: 11:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 156 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 11:  
US-09-142-583A-11

Query Match 77.2%; Score 465; DB 3; Length 156;  
Best Local Similarity 98.8%; Pred. No. 1.2e-47;  
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGIVDECCFRSCDLRLRLMY 60  
DB 52 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGIVDECCFRSCDLRLRLMY 111  
QY 61 CAPLKPAAKARSVRAQRHTDMPKTK 86  
DB 112 CAPLKPAAKARSVRAQRHTDMPKTK 137

RESULT 7  
5405942-1  
Patent No. 5405942  
APPLICANT: BELL, GRAEME I.; RALL, LESLIE B.; MERRYWEATHER,  
JAMES P.  
TITLE OF INVENTION: PREPRO INSULIN-LIKE GROWTH FACTORS  
1 AND 11  
NUMBER OF SEQUENCES: 16  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/07/65,673  
FILING DATE: 16-JUN-1987  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 630,557  
FILING DATE: 19-JUL-1984  
SEQ ID NO: 1:  
LENGTH: 119  
5405942-1

Query Match 76.1%; Score 458; DB 6; Length 119;  
Best Local Similarity 97.7%; Pred. No. 5.9e-47;  
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGIVDECCFRSCDLRLRLMY 60  
DB 15 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGIVDECCFRSCDLRLRLMY 74  
QY 61 CAPLKPAAKARSVRAQRHTDMPKTK 86  
DB 75 CAPLKPAAKARSVRAQRHTDMPKTK 100

RESULT 8  
US-08-989-251-41  
Sequence 41, Application US/08989251  
Patent No. 6017731  
GENERAL INFORMATION:  
APPLICANT: Tekamp-Olson, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
TITLE OF INVENTION: PROTEINS IN YEAST  
NUMBER OF SEQUENCES: 41  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
STREET: 3605 Glenwood Ave. Suite 310  
CITY: Raleigh  
STATE: NC  
COUNTRY: US  
ZIP: 27622  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/989,251  
FILING DATE:  
CLASSIFICATION:  
ATTORNEY/AGENT INFORMATION:  
NAME: Spruill, W. Murray  
REGISTRATION NUMBER: 32,943  
REFERENCE/DOCKET NUMBER: 5784-4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 919 420 2202  
TELEFAX: 919 881 3175

INFORMATION FOR SEQ ID NO: 41:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 191 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-989-251-41

Query Match 75.5%; Score 454.5; DB 3; Length 191;  
Best Local Similarity 97.7%; Pred. No. 2.7e-46;  
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGIVDECCFRSCDLRLRLMY 60  
DB 86 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGIVDECCFRSCDLRLRLMY 145  
QY 61 CAPLKPAAKAA-RSVRAQRHTDMPKTK 86  
DB 146 CAPLKPAAKARSVRAQRHTDMPKTK 172

RESULT 9  
US-09-340-250-41  
Sequence 41, Application US/09340250  
Patent No. 6083723  
GENERAL INFORMATION:  
APPLICANT: Tekamp-Olson, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
TITLE OF INVENTION: PROTEINS IN YEAST  
NUMBER OF SEQUENCES: 41  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
STREET: 3605 Glenwood Ave. Suite 310  
CITY: Raleigh  
STATE: NC  
COUNTRY: US  
ZIP: 27622  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/340,250  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/989,251  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Spruill, W. Murray  
REGISTRATION NUMBER: 32,943  
REFERENCE/DOCKET NUMBER: 5784-4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 919 881 3175  
TELEFAX: 919 420 2202  
INFORMATION FOR SEQ ID NO: 41:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 191 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-09-340-250-41

Query Match 75.5%; Score 454.5; DB 3; Length 191;  
Best Local Similarity 97.7%; Pred. No. 2.7e-46;  
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGIVDECCFRSCDLRLRLMY 60  
DB 86 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGIVDECCFRSCDLRLRLMY 145  
QY 61 CAPLKPAAKAA-RSVRAQRHTDMPKTK 86

Db 146 CAPLKPAAKSAKSVRAQRHTDMPKTX 172

RESULT 10  
US-09-528-108-41  
Sequence 41, Application US/09528108  
Patent No. 6312923  
GENERAL INFORMATION:  
APPLICANT: Tekamp-Olson, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
TITLE OF INVENTION: PROTEINS IN YEAST  
NUMBER OF SEQUENCES: 41  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
STREET: 3605 Glenwood Ave. Suite 310  
CITY: Raleigh  
STATE: NC  
COUNTRY: US  
ZIP: 27622  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/528,108  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/989,251  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Spurrill, W. Murray  
REGISTRATION NUMBER: 32,943  
REFERENCE/DOCKET NUMBER: 5784-4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 919 420 2202  
TELEFAX: 919 881 3175  
INFORMATION FOR SEQ ID NO: 41:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 191 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-09-528-108-41

Query Match 75.5%; Score 454.5; DB 4; Length 191;  
Best Local Similarity 97.7%; Pred. No. 2,7e-46;  
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

QY 1 GPETLCAELVDALQFCGDRGFYFNKPTGYGSSRRAPQTGIYDECCFRSCDLRLIEMV 60  
DB 86 GPETLCAELVDALQFCGDRGFYFNKPTGYGSSRRAPQTGIYDECCFRSCDLRLIEMV 145

QY 61 CAPLKPAAKSAKSVRAQRHTDMPKTX 86  
DB 146 CAPLKPAAKSAKSVRAQRHTDMPKTX 172

RESULT 11  
US-08-460-890A-47  
Sequence 47, Application US/08460890A  
Patent No. 5994109  
GENERAL INFORMATION:  
APPLICANT: Moo, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gotchaik, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
TITLE OF INVENTION: METHODS OF USE  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:

ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
CITY: Los Angeles  
STATE: California  
COUNTRY: U.S.A.  
ZIP: 90071-2066  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
MEDIUM TYPE: storage  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: Pastero for Windows 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/460,890A  
FILING DATE: June 5, 1995  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/167,641  
FILING DATE: December 14, 1993  
APPLICATION NUMBER: 07/855,389  
FILING DATE: March 20, 1992  
APPLICATION NUMBER: PCT/US93/02725  
FILING DATE: March 19, 1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Warburg, Richard J.  
REGISTRATION NUMBER: 32,327  
REFERENCE/DOCKET NUMBER: 212/066  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (213) 489-1600  
TELEFAX: (213) 955-0440  
TELEX: 67-3510  
INFORMATION FOR SEQ ID NO: 47:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-460-890A-47

Query Match 67.9%; Score 409; DB 2; Length 78;  
Best Local Similarity 96.1%; Pred. No. 2.4e-41;  
Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGCAELVDALQFCGDRGFYFNKPTGYGSSRRAPQTGIYDECCFRSCDLRLIEMV 63  
DB 2 TLGCAELVDALQFCGDRGFYFNKPTGYGSSRRAPQTGIYDECCFRSCDLRLIEMV 61

QY 64 LKPAAKSAKSVRAQRHTD 80  
DB 62 LKPAAKSAKSVRAQRHTD 78

RESULT 12  
US-08-167-641C-47  
Sequence 47, Application US/08167641C  
Patent No. 6033884  
GENERAL INFORMATION:  
APPLICANT: Moo, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gotchaik, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
TITLE OF INVENTION: METHODS OF USE  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
CITY: Los Angeles  
STATE: California  
COUNTRY: U.S.A.

ZIP: 90071-2066  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
MEDIUM TYPE: storage  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: Fastseq for Windows 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/167,641C  
FILING DATE: December 14, 1993  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 07/855,389  
FILING DATE: March 20, 1992  
APPLICATION NUMBER: PCT/US93/02725  
FILING DATE: March 19, 1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Warburg, Richard J.  
REGISTRATION NUMBER: 32,327  
REFERENCE/DOCKET NUMBER: 205/012  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (213) 489-1600  
TELEFAX: (213) 955-0440  
TELEX: 67-3510  
INFORMATION FOR SEQ ID NO: 47:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-167-641C-47

Query Match 67.9%; Score 409; DB 3; Length 78;  
Best Local Similarity 96.1%; Pred. No. 2,4e-41;  
Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGAEIVDALQFVCGRGFFYFNKPTGYSSRRAPQTGIVDECCFRSCDLRLIEMTCAP 63  
DB 2 TLGAEIVDALQFVCGRGFFYFNKPTGYSSRRAPQTGIVDECCFRSCDLRLIEMTCAP 61

QY 64 LKPAKARSYVAROHTD 80  
DB 62 LRPASARSYVAROHTD 78

## RESULT 13

US-08-460-971A-47  
Sequence 47, Application US/08460971A  
Patent No. 6150168  
GENERAL INFORMATION:  
APPLICANT: Woo, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gottchalk, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
STREET: Suite 4700  
CITY: Los Angeles  
STATE: California  
COUNTRY: U.S.A.  
ZIP: 90071-2066  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
MEDIUM TYPE: storage  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: Fastseq for Windows 2.0  
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/460,971A  
FILING DATE: June 5, 1995  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/167,641  
FILING DATE: December 14, 1993  
APPLICATION NUMBER: 07/855,389  
FILING DATE: March 20, 1992  
APPLICATION NUMBER: PCT/US93/02725  
FILING DATE: March 19, 1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Warburg, Richard J.  
REGISTRATION NUMBER: 32,327  
REFERENCE/DOCKET NUMBER: 212/063  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (213) 489-1600  
TELEFAX: (213) 955-0440  
TELEX: 67-3510  
INFORMATION FOR SEQ ID NO: 47:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-460-971A-47

Query Match 67.9%; Score 409; DB 3; Length 78;  
Best Local Similarity 96.1%; Pred. No. 2,4e-41;  
Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGAEIVDALQFVCGRGFFYFNKPTGYSSRRAPQTGIVDECCFRSCDLRLIEMTCAP 63  
DB 2 TLGAEIVDALQFVCGRGFFYFNKPTGYSSRRAPQTGIVDECCFRSCDLRLIEMTCAP 61

QY 64 LKPAKARSYVAROHTD 80  
DB 62 LRPASARSYVAROHTD 78

## RESULT 14

US-08-462-040-47  
Sequence 47, Application US/08462040  
Patent No. 6177554  
GENERAL INFORMATION:  
APPLICANT: Woo, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gottchalk, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
STREET: Suite 4700  
CITY: Los Angeles  
STATE: California  
COUNTRY: U.S.A.  
ZIP: 90071-2066  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
MEDIUM TYPE: storage  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: Fastseq for Windows 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/462,040  
FILING DATE: June 5, 1995  
CLASSIFICATION: 536  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/167,641  
FILING DATE: December 14, 1993

APPLICATION NUMBER: 07/855,389  
FILING DATE: March 20, 1992  
APPLICATION NUMBER: PCT/US93/02725  
FILING DATE: March 19, 1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Warburg, Richard J.  
REGISTRATION NUMBER: 32,327  
REFERENCE/DOCKET NUMBER: 212/078  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (213) 489-1600  
TELEFAX: (213) 955-0440  
TELEX: 67-3510  
INFORMATION FOR SEQ ID NO: 47:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-462-040-47

Query Match 67.9%; Score 409; DB 3; Length 78;  
Best Local Similarity 96.1%; Pred. No. 2.4e-41;  
Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGALVDLQFVCGDGRGFYFNKPTGYGSSRRAPQTGI VDECCFRSCDLRLMYCAP 63  
DB 2 TLGALVDLQFVCGDGRGFYFNKPTGYGSSRRAPQTGI VDECCFRSCDLRLMYCAP 61  
QY 64 LRPAAARSVRAQRHTD 80  
DB 62 LRPAAARSVRAQRHTD 78

## RESULT 15

US-07-953-230A-9  
Sequence 9, Application US/07953230A

Patent No. 5476779

GENERAL INFORMATION:

APPLICANT: CHEN, Thomas T

APPLICANT: SHAMLOTT, Michael J

TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED

TITLE OF INVENTION: FROM RAINBOW TROUT

NUMBER OF SEQUENCES: 12

CORRESPONDENCE ADDRESS:

ADDRESSER: Burns, Doane, Swecker & Mathis

STREET: George Mason Bldg., Washington & Prince Sts.

CITY: Alexandria

STATE: Virginia

COUNTRY: United States

ZIP: 22313-1404

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/953,230A

FILING DATE: 30-SEP-1992

CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:

NAME: Crane-Feury, Sharon E

REGISTRATION NUMBER: 36,113

REFERENCE/DOCKET NUMBER: 028755-010

TELECOMMUNICATION INFORMATION:

TELEPHONE: (703) 836-6620

TELEFAX: (703) 836-2021

INFORMATION FOR SEQ ID NO: 9:

SEQUENCE CHARACTERISTICS:

LENGTH: 176 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein  
US-07-953-230A-9

Query Match 66.1%; Score 398; DB 1; Length 176;  
Best Local Similarity 62.8%; Pred. No. 1.3e-39;  
Matches 76; Conservative 9; Mismatches 20; Indels 16; Gaps 1;

QY 1 GPETLGAELVDLQFVCGDGRGFYFNKPTGYGSSRRAPQTGI VDECCFRSCDLRLMY 60  
DB 45 GPETLGAELVDLQFVCGDGRGFYFNKPTGYGSSRRAPQTGI VDECCFRSCDLRLMY 104  
QY 61 CAPLPKAAARSVRAQRHTDMPKTKY-----QPSITNKMSQSRKRG 104  
DB 105 CAPLPKAAARSVRAQRHTDMPKTKYSTAVQSVDRGTERTAQHDPKTKPKKEVQKNS 164  
QY 105 S 105  
DB 165 S 165

Search completed: March 3, 2004, 08:06:38  
Job time: 15.0422 secs

GenCore version 5.1.6  
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# OM protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 48.1446 Seconds  
(Without alignments)  
651.429 Million cell updates/sec

Title: US-09-852-261-6  
Perfect score: 602  
Sequence: 1 GPETLCSALVDALQFVCGD.....TNKKMKSGRRRKSTFPEHK 111

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database : A\_Geneseq\_29Jan04:\*  
1: geneseqp1980s:\*  
2: geneseqp1990s:\*  
3: geneseqp2000s:\*  
4: geneseqp2001s:\*  
5: geneseqp2002s:\*  
6: geneseqp2003as:\*  
7: geneseqp2003bs:\*  
8: geneseqp2004s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	602	100.0	111	4	AAE02449 Rabbit IG
2	602	100.0	111	5	AAU10561 Rabbit me
3	602	100.0	111	7	ABR63169 Rabbit me
4	602	100.0	121	2	AAW23301 Rabbit in
5	572.5	95.1	110	4	AAE02447 Human IGF
6	572.5	95.1	110	5	AAU10559 Human mec
7	572.5	95.1	110	7	ABR63167 Human mec
8	539	89.5	133	6	ABP58805 Mouse ins
9	539	89.5	133	7	ADA23374 Mouse WGF
10	536	89.0	195	1	AAp70277 Sequence
11	512	85.0	111	4	AAE02448 Rat IGF-I
12	512	85.0	111	5	AAU10560 Rat mecha
13	512	85.0	111	7	ABR63168 Rat mecha
14	508	84.4	181	7	ADP57466 Rat prote
15	488	77.7	105	4	AAE02452 Rabbit 1i
16	488	77.7	105	5	AAU10564 Rabbit in
17	465	77.2	105	5	AAE02450 Human 1iv
18	465	77.2	105	5	AAU10562 Human ins
19	465	77.2	105	7	ABR63172 Rabbit 1i
20	465	77.2	105	4	AAU09067 Human 1iv
21	465	77.2	137	4	AAU09067 Human ins
22	465	77.2	153	2	AAH83893 Insulin-1
23	465	77.2	153	2	AAW69733 Human IGF
24	465	77.2	153	2	AAW57882 Human IGF
25	465	77.2	153	5	AAU84284 Human end

26	465	77.2	153	5	AAU84341 Protein I
27	465	77.2	153	6	ADA26451 Human ins
28	465	77.2	153	7	ADCS9343 Human ins
29	465	77.2	153	7	ADD25494 Binding d
30	465	77.2	156	2	AAW23302 Human ins
31	462	76.7	105	4	AAE02456 Rabbit 1i
32	458	76.1	119	2	AAPE0578 Human pre
33	455	75.7	154	1	AAAP0944 Goat Innu
34	454.5	75.5	191	2	AAH64068 Chimeric
35	454.5	75.5	191	5	AAE24861 Yeast alp
36	450	74.8	127	7	ADA23373 Mouse ins
37	447	74.3	153	7	ADD47095 Rat prote
38	420	69.8	105	4	AAE02531 Rat liver
39	420	69.8	105	5	AAE02451 Rat liver
40	420	69.8	105	5	AAU10563 Rat insul
41	420	69.8	105	7	ABR63171 Rat liver
42	409	67.9	78	3	AAH98462 pep 17 us
43	409	67.9	78	3	AAH99027 Peptide 1
44	409	67.9	78	4	AAH45835 Nucleic a
45	409	67.9	78	4	AAU04272 Nuclear 1

## ALIGNMENTS

RESULT 1	AAE02449	standard; protein, 111 AA.
ID	AAE02449	
XX	AAE02449;	
AC	10-AUG-2001	(first entry)
XX		
DT		
XX		
DE	Rabbit IGF-I isoform mechano-growth factor (MGF) protein.	
XX		
KM	Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;	
KM	mechano-growth factor; neurological disorder; neurodegenerative disorder;	
KM	amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;	
KM	poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;	
KM	nerve damage; autosomal muscular dystrophy; diabetic neuropathy;	
KM	sex-linked muscular dystrophy; peripheral neuropathy;	
XX	Alzheimer's disease; Parkinson's disease.	
OS	Oryzocolagus cuniculus.	
XX		
PN	W0200136483-A1.	
XX		
PD	25-MAY-2001.	
XX		
PF	15-NOV-2000; 2000MO-GB004354.	
XX		
PR	15-NOV-1999; 99GB-00026968.	
XX		
PA	(UNLO ) UNIV COLLEGE LONDON.	
XX		
PI	Goldspink G, Johnson I;	
XX		
DR	WPI; 2001-355620/37.	
XX		
DR	N-PSDB; AAD06400.	
PT	Use of mechano-growth factor, an isoform of insulin-like Growth Factor-I,	
PT	capable of reducing motoneurone loss, in the manufacture of a medicament	
PT	for the treatment of neurological disorder.	
XX		
PS	Claim 4; Page 54; 66pp; English.	
XX		
CC	The present invention relates to use of mechano-growth factor (MGF), an	
CC	insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a	
CC	medicament for the treatment of neurological disorder. The MGF is capable	
CC	of reducing motoneurone loss by 20% or greater in response to nerve	
CC	avulsion, and effects motoneurone rescue, preferably adult motoneurone	
CC	rescue. The MGF polynucleotide and polypeptide are useful in the	
CC	manufacture of a medicament for the treatment of a neurological disorder,	

CC including a disorder of motoneurons and/or neurodegenerative disorder,  
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive  
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,  
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a  
 CC toxin, motoneuron trauma, a motoneuron lesion or nerve damage, an  
 CC injury that affects motoneurons, motoneuron loss associated with aging,  
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy, the  
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The  
 CC present sequence is rabbit IGF-I isoform MGF. MGF is a muscle isoform  
 CC having extracellular (EC) domain, hence also referred as IGF-I-EC. The  
 CC MGF protein comprises amino acid sequences encoded by nucleic acid  
 CC sequence of IGF-I exons 4, 5 and 6 in the reading frame of MGF

XX Sequence 111 AA;

Query Match 100.0%; Score 602; DB 4; Length 111;  
 Best Local Similarity 100.0%; Pred. No. 2.6e-54;  
 Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYSSSRRAPOGTGVDECCFRSCDLRLLEY 60  
 DB 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYSSSRRAPOGTGVDECCFRSCDLRLLEY 60

QY 61 CAPLKPAAKARSVRAQHTDMPKTKYQPPSTNKXKKSQRKRGSTFEEHK 111  
 DB 61 CAPLKPAAKARSVRAQHTDMPKTKYQPPSTNKXKKSQRKRGSTFEEHK 111

RESULT 2  
 AAU10561  
 ID AAU10561 standard; protein; 111 AA.

XX AAU10561;

XX 25-FEB-2002 (first entry)

XX Rabbit mechano-growth factor (MGF) polypeptide.

XX Rabbit; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;  
 KM neuroprotective; nerve damage; peripheral nervous system; nerve severing;  
 KM muscle; neurological disorder; motoneuron loss; motoneuron disorder;  
 KM nerve avulsion.

XX Oryctolagus cuniculus.

XX WO200185781-A2.

XX 15-NOV-2001.

XX 10-MAY-2001; 2001MO-GB002054.

XX 10-MAY-2000; 2000GB-00011278.

XX (UNLO ) UNIV COLLEGE LONDON.

XX (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

XX Goldspink G, Terenghi G;

XX WPI; 2002-055585/07.

XX N-PSDB; AAS16879.

XX Use of insulin-like growth factor-I (IGF-I) isoform known as mechano  
 PT growth factor which is encoded by IGF-I exons 4,5,6 and has ability to  
 PT reduce motoneuron loss in response to nerve avulsion, to treat nerve  
 PT damage.

XX Claim 11; Fig 7; 65pp; English.

XX The invention relates to the use of an insulin-like growth factor I (IGF-I)  
 CC isoform, known as mechano-growth factor (MGF), in the manufacture of a  
 CC medicament for treating nerve damage in the peripheral nervous system, or  
 CC for treating nerve damage by localising MGF at the site of damage. The  
 CC nerve damage may include severing of a nerve. The treatment may be

CC combined with another treatment (such as a polypeptide growth factor  
 CC other than MGF) that prevents or diminishes degeneration of the target  
 CC organ (for example, muscle) which the damaged nerve innervates, whereby  
 CC the treatment of the muscle with MGF or a polynucleotide encoding MGF  
 CC prevents or diminishes degeneration. The method is useful for treating  
 CC neurological disorders, preferably motoneuron disorders. These methods  
 CC can reduce motoneuron loss by 20% or greater in response to nerve  
 CC avulsion. This sequence represents the rabbit MGF polypeptide

XX Sequence 111 AA;

Query Match 100.0%; Score 602; DB 5; Length 111;  
 Best Local Similarity 100.0%; Pred. No. 2.6e-54;  
 Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYSSSRRAPOGTGVDECCFRSCDLRLLEY 60  
 DB 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYSSSRRAPOGTGVDECCFRSCDLRLLEY 60

QY 61 CAPLKPAAKARSVRAQHTDMPKTKYQPPSTNKXKKSQRKRGSTFEEHK 111  
 DB 61 CAPLKPAAKARSVRAQHTDMPKTKYQPPSTNKXKKSQRKRGSTFEEHK 111

RESULT 3  
 ABR63169  
 ID ABR63169 standard; protein; 111 AA.

XX ABR63169;

XX 18-DEC-2003 (first entry)

XX Rabbit mechano growth factor (C-terminal end).

XX Mechano growth factor; MGF; insulin-like growth factor I; rabbit;  
 KM splice variant; cardiac; vasotrophic; gene therapy.

XX Oryctolagus cuniculus.

XX WO2003066082-A1.

XX 14-AUG-2003.

XX 06-FEB-2003; 2003WO-GB000537.

XX 07-FEB-2002; 2002GB-00002906.

XX (UNLO ) UNIV COLLEGE LONDON.

XX (UNLI ) UNIV ILLINOIS FOUNDR.

XX Goldspink G, Goldspink P;

XX WPI; 2003-636936/60.

XX N-PSDB; ACF79637.

XX Use of Mechano Growth Factor polypeptide or polynucleotide for preventing  
 PT or limiting apoptosis in the myocardium, particularly for preventing or  
 PT limiting myocardial damage in response to ischemia or mechanical overload  
 PT of the heart.

XX Claim 5; Fig 9; 74pp; English.

XX The present sequence is that of the C-terminal end of novel rabbit  
 CC mechano growth factor (MGF), encoded by exons 3-6 of the IGF-I gene. MGF  
 CC is a splice variant and non-liver type isoform of insulin-like growth  
 CC factor (IGF-I) that is activated in response to cardiac tissue damage and  
 CC which has a repair function in the ischemic and/or overloaded heart. The  
 CC rabbit MGF transcript has a 52 base insert in the 3 domain that alters  
 CC the reading frame and hence the C-terminal end of MGF protein in  
 CC comparison with other IGF-I splice variants. The invention provides use  
 CC of a MGF polypeptide or polynucleotide in the manufacture of a medicament  
 CC for the prevention or limitation of myocardial damage in response to  
 CC ischaemia or mechanical overload of the heart by preventing or limiting



CC apoptosis in the myocardium. The MGF polypeptide, polynucleotide or  
CC medicament is also useful for administration in response to a heart  
CC attack

CC Sequence 111 AA;

Query Match 100.0%; Score 602; DB 7; Length 111;  
Best Local Similarity 100.0%; Pred. No. 2.6e-54;  
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYSSRRAPQTGIYDECCFRSCDLRLIEMV 60  
DB 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYSSRRAPQTGIYDECCFRSCDLRLIEMV 60  
QY 61 CAPLKPAAKASVRAQRHTDMPKTKYOPSTNKKMSQRRRKGSTFEEHK 111  
DB 61 CAPLKPAAKASVRAQRHTDMPKTKYOPSTNKKMSQRRRKGSTFEEHK 111

#### RESULT 4

AAW23301  
ID AAW23301 standard; protein; 121 AA.

AC AAW23301;

DT 14-APR-1998 (first entry)

DE Rabbit insulin like growth factor 1.

KM Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder; heart;  
KM neuromuscular disease.

OS Oryctolagus cuniculus.

PN WO9733997-A1.

PD 18-SEP-1997.

PF 11-MAR-1997; 97WO-GB000658.

PR 11-MAR-1996; 96GB-00005124.

PA (UNLO ) ROYAL FREE HOSPITAL SCHOOL MED.

PI Goldspink G;

DR WPI; 1997-470877/43.

DR N-PSDB; AAT84893.

PT Use of insulin like growth factor I characterised by presence of Ec  
PT peptide - to treat humans or animals, particularly muscle disorders,  
PT heart conditions or neuromuscular diseases.

PS Disclosure; Fig 3; 33pp; English.

CC A use of insulin like growth factor I (IGF-1) has been developed, and is  
CC characterised by the presence of the Ec peptide, or a functional  
CC equivalent, in the treatment or therapy of a human or animal. The IGF-1  
CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or  
CC Becker muscular dystrophy, autosomal dystrophies and related progressive  
CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,  
CC spinal cord injury induced muscle atrophy and neuromuscular diseases, and  
CC cardiac disorders, e.g. diseases where promotion of cardiac muscle  
CC protein synthesis is a beneficial treatment, cardiomyopathies and acute  
CC heart failure or insult, specifically myocarditis or myocardial  
CC infarction. It can also be used to promote bone fracture healing and  
CC maintenance of bone in old age. The present sequence represents rabbit  
CC IGF-1 used in the present specification

CC Sequence 121 AA;

Query Match 100.0%; Score 602; DB 2; Length 121;  
Best Local Similarity 100.0%; Pred. No. 2.8e-54;

Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYSSRRAPQTGIYDECCFRSCDLRLIEMV 60

DB 11 GPEITLGAELVDALQFVCGDRGFYFNKPTGYSSRRAPQTGIYDECCFRSCDLRLIEMV 70

QY 61 CAPLKPAAKASVRAQRHTDMPKTKYOPSTNKKMSQRRRKGSTFEEHK 111  
DB 71 CAPLKPAAKASVRAQRHTDMPKTKYOPSTNKKMSQRRRKGSTFEEHK 121

#### RESULT 5

AAE02447  
ID AAE02447 standard; protein; 110 AA.

AC AAE02447;

DT 10-AUG-2001 (first entry)

DE Human IGF-I isoform mechano-growth factor (MGF) protein.

KM Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

KM mechano-growth factor; neurological disorder; neurodegenerative disorder;

KM amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

KM poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

KM nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

KM sex-linked muscular dystrophy; peripheral neuropathy;

OS Homo sapiens.

PN WO200136483-A1.

PD 25-MAY-2001.

PF 15-NOV-2000; 2000MO-GB004354.

PR 15-NOV-1999; 99GB-00026968.

PA (UNLO ) UNIV COLLEGE LONDON.

PI Goldspink G, Johnson I;

DR WPI; 2001-355620/37.

DR N-PSDB; AAD06398.

PT Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,  
PT capable of reducing motoneurone loss, in the manufacture of a medicament  
PT for the treatment of neurological disorder.

PS Claim 4; Page 50-51; 66pp; English.

CC The present invention relates to use of mechano-growth factor (MGF), an  
CC Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a  
CC medicament for the treatment of neurological disorder. The MGF is capable  
CC of reducing motoneurone loss by 20% or greater in response to nerve  
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone  
CC rescue. The MGF polynucleotide and polypeptide are useful in the  
CC manufacture of a medicament for the treatment of a neurological disorder,  
CC including a disorder of motoneurons and/or neurodegenerative disorder,  
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive  
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,  
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a  
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an  
CC injury that affects motoneurons, motoneurone loss associated with aging,  
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,  
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The  
CC present sequence is human IGF-I isoform MGF. MGF is a muscle isoform  
CC having extracellular (EC) domain, hence also referred as IGF-I-EC. The  
CC MGF protein comprises amino acid sequences encoded by nucleic acid  
CC sequence of IGF-I exons 4, 5 and 6 in the reading frame of MGF  
CC Sequence 110 AA;

Query Match 95.1%; Score 572.5; DB 4; Length 110;  
 Best Local Similarity 96.4%; Pred. No. 2.8e-51;  
 Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEMY 60  
 DB 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEMY 60

QY 61 CAPLKPAAKARSYVAQRHTDMPKTQKQPPSTNKKKSGRRKGSFTEEHK 111  
 DB 61 CAPLKPAAKARSYVAQRHTDMPKTQKQPPSTNKKKSGRRKGSFTEEHK 110

RESULT 6  
 AAU10559 standard; protein; 110 AA.  
 ID AAU10559;  
 AC AAU10559;  
 XX  
 XX 25-FEB-2002 (first entry)  
 DE Human mechano-growth factor (MGF) polypeptide.  
 XX  
 XX Human mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;  
 KM neuroprotective; nerve damage; peripheral nervous system; nerve severing;  
 KM muscle; neurological disorder; motoneuron loss; motoneuron disorder;  
 KM nerve avulsion.  
 XX  
 OS Homo sapiens.  
 XX  
 XX WO200185781-A2.  
 XX  
 XX 15-NOV-2001.  
 XX  
 XX 10-MAY-2001; 2001WO-GB002054.  
 XX  
 XX 10-MAY-2000; 2000GB-00011278.  
 XX  
 XX (UNLO ) UNIV COLLEGE LONDON.  
 PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.  
 PA  
 PI Goldspink G, Terenghi G;  
 XX  
 XX WPI; 2002-055585/07.  
 DR N-PSDB; AAS16877.  
 XX  
 XX

PT Use of insulin-like growth factor-I (IGF-I) isoform known as mechano  
 PT growth factor which is encoded by IGF-I exons 4,5,6 and has ability to  
 PT reduce motoneuron loss in response to nerve avulsion, to treat nerve  
 PT damage.  
 PT  
 PS Claim 11; Fig 5; 65pp; English.  
 XX  
 XX

CC The invention relates to the use of an insulin-like growth factor I (IGF-  
 CC I) isoform, known as mechano-growth factor (MGF), in the manufacture of a  
 CC medicament for treating nerve damage in the peripheral nervous system, or  
 CC for treating nerve damage by localising MGF at the site of damage. The  
 CC nerve damage may include severing of a nerve. The treatment may be  
 CC combined with another treatment (such as a polypeptide growth factor  
 CC other than MGF) that prevents or diminishes degeneration of the target  
 CC organ (for example, muscle) which the damaged nerve innervates, whereby  
 CC the treatment of the muscle with MGF or a polynucleotide encoding MGF  
 CC prevents or diminishes degeneration. The method is useful for treating  
 CC neurological disorders, preferably motoneuron disorders. These methods  
 CC can reduce motoneuron loss by 20% or greater in response to nerve  
 CC avulsion. This sequence represents the human MGF polypeptide  
 XX  
 XX

SQ Sequence 110 AA;

Query Match 95.1%; Score 572.5; DB 5; Length 110;  
 Best Local Similarity 96.4%; Pred. No. 2.8e-51;  
 Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEMY 60  
 DB 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEMY 60

QY 61 CAPLKPAAKARSYVAQRHTDMPKTQKQPPSTNKKKSGRRKGSFTEEHK 111  
 DB 61 CAPLKPAAKARSYVAQRHTDMPKTQKQPPSTNKKKSGRRKGSFTEEHK 110

RESULT 7  
 ABR63167 standard; protein; 110 AA.  
 ID ABR63167;  
 AC ABR63167;  
 XX  
 XX 18-DEC-2003 (first entry)  
 DE Human mechano growth factor (C-terminal end).  
 XX  
 XX Mechano growth factor; MGF; insulin-like growth factor 1; human;  
 KM splice variant; cardiac; vasotropic; gene therapy.  
 XX  
 OS Homo sapiens.  
 XX  
 XX WO2003066082-A1.  
 XX  
 XX 14-AUG-2003.  
 XX  
 XX 06-FEB-2003; 2003WO-GB000537.  
 XX  
 XX 07-FEB-2002; 2002GB-00002906.  
 XX  
 XX (UNLO ) UNIV COLLEGE LONDON.  
 PA (UNII ) UNIV ILLINOIS FOUND.  
 PA  
 PI Goldspink G, Goldspink P;  
 XX  
 XX WPI; 2003-636936/60.  
 DR N-PSDB; ACF79635.  
 XX  
 XX

PT Use of Mechano Growth Factor polypeptide or polynucleotide for preventing  
 PT or limiting apoptosis in the myocardium, particularly for preventing or  
 PT limiting myocardial damage in response to ischemia or mechanical overload  
 PT of the heart.  
 PT  
 PS Claim 5; Fig 7; 74pp; English.  
 XX  
 XX

CC The present sequence is that of the C-terminal end of novel human mechano  
 CC growth factor (MGF), encoded by exons 3-6 of the IGF-I gene. MGF is a  
 CC splice variant and non-liver type isoform of insulin-like growth factor  
 CC (IGF-I) that is activated in response to cardiac tissue damage and which  
 CC has a repair function in the ischaemic and/or overloaded heart. The human  
 CC MGF transcript has a 49 base insert in the B domain that alters the  
 CC reading frame and hence the C-terminal end of MGF protein in comparison  
 CC with other IGF-I splice variants. The invention provides use of a MGF  
 CC polypeptide or polynucleotide in the manufacture of a medicament for the  
 CC prevention or limitation of myocardial damage in response to ischaemia or  
 CC mechanical overload of the heart by preventing or limiting apoptosis in  
 CC the myocardium. The MGF polypeptide, polynucleotide or medicament is also  
 CC useful for administration in response to a heart attack  
 XX  
 XX

SQ Sequence 110 AA;

Query Match 95.1%; Score 572.5; DB 7; Length 110;  
 Best Local Similarity 96.4%; Pred. No. 2.8e-51;  
 Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEMY 60  
 DB 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEMY 60

QY 61 CAPLKPAAKARSYVAQRHTDMPKTQKQPPSTNKKKSGRRKGSFTEEHK 111

Db 61 CAPLKPAKASVRAQRHTDMPKTKYQPPSTNKTAKSQ-RRKSGTFFEHK 110

RESULT 8  
ABP58085  
ID ABP58085 standard; protein, 133 AA.

XX AC ABP58085,  
XX DT 07-MAR-2003 (first entry)

XX DE Mouse insulin-like growth factor IB.

XX KM Insulin-like growth factor IB; IGF-IB; mouse; mRNA; assay;  
XX KM nucleic acid detection.

XX OS Mus musculus.

XX PN WO200297380-A2.

XX PD 05-DEC-2002.

XX PF 31-MAY-2002; 2002WO-SE001056.

XX PR 01-JUN-2001; 2001SE-00001934.

XX PA (BIOV-) BIOVITRUM AB.

XX PI Parrow V, Rosengren L;

XX DR WPI; 2003-129529/12.

XX DR N-PSDB; ABV76185.

PT Quantitating a target nucleic acid in a sample comprises immobilizing, on a solid support, a sample comprising a target nucleic acid, and detecting and quantitating signals generated from the antisense and sense probes.

XX PS Example 1; Page 17; 18pp; English.

XX CC The present sequence is the protein sequence of murine insulin-like growth factor IB (IGF-IB). IGF-IB cDNA was used in an example of the method of the invention to generate probes for determination of IGF-IB RNA. The method comprises a quantitative hybridisation assay for analysis of mRNA in a target nucleic acid (RNA) sample. It involves: (i) immobilising the RNA sample on a solid support; (ii) contacting a labelled antisense probe to a first portion of the RNA, and a labelled sense probe to a second portion of the RNA; (iii) detecting and quantitating the signals generated by the antisense probe signal minus the sense probe signal, the value being proportional to the amount of mRNA in the RNA sample. In an example of the method, a cDNA clone containing 60 nucleotides from exon 2 and 179 nucleotides from exon 3 of the mouse IGF-IB gene was cloned into pGEM-4Z vector. Linearisation of the plasmid with EcoRI allowed transcription of a 250-nucleotide antisense probe using T7 polymerase. Linearisation with HindIII allowed transcription of a sense probe of similar length using SP6 polymerase (see ABV76186). The probes were purified and used to determine IGF-1 RNA in mouse hepatocytes and also in rat hepatocytes

XX SQ Sequence 133 AA;

Query Match 89.5%; Score 539; DB 6; Length 133;  
Best Local Similarity 91.0%; Pred. No. 9.8e-48;  
Matches 101; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEMY 60  
DB 23 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEMY 82  
QY 61 CAPLKPAKASVRAQRHTDMPKTKYQPPSTNKTAKSQ-RRKSGTFFEHK 111  
DB 83 CAPLKPAKASVRAQRHTDMPKTKYQPPSTNKTAKSQ-RRKSGTFFEHK 133

RESULT 9  
ADA23374  
ID ADA23374 standard; protein, 133 AA.

XX AC ADA23374;

XX DT 20-NOV-2003 (first entry)

XX DE Mouse MGF amino acid sequence.

XX KM ligand; antibody; mechano-growth factor; MGF; inotropic; cardiact;

XX KM cell signaling; muscle damage; muscular dystrophy; cardiac muscle damage;

XX OS Mus sp.

XX PN WO2003068949-A1.

XX PD 21-AUG-2003.

XX PF 14-FEB-2003; 2003WO-GB000657.

XX PR 14-FEB-2002; 2002GB-00003552.

XX PA (BEAU/) BEAUMONT N.

XX PI Beaumont N;

XX DR WPI; 2003-679637/64.

PT New peptides corresponding to the C terminus of creatine kinase have a similar function to mechano-growth factor and are useful to treat muscle damage such as exercise injury, muscular dystrophy and heart attack

XX PS Disclosure; Fig 1; 21pp; English.

XX CC The present invention describes an isolated peptide capable of acting as a ligand for an antibody with affinity for the C-terminus of mechano-growth factor (MGF), for use in therapy, where the peptide is not MGF. Also described is an isolated peptide for use in therapy comprising the sequence (1) (X1)m(X2)n(X3)G(X4)(X5)(X6)(X7)2(X8)p, where X1 = a basic residue, X2 and X8 = any amino acid, X3 and X4 = Lys or Gln, X5 = Ser, Thr, Ala or Pro, X6 = Ile, Phe or Leu, X7 = Asp or Glu, m = 2 or 3, n = 0 -2, and p = 2-6. (1) has inotropic and cardiact activities, and can be used in cell signaling. (1) can be used for the manufacture of a composition for the treatment of muscle damage, deterioration or injury, particularly damage to skeletal muscle, especially muscular dystrophy or damage to cardiac muscle, and to manufacture a composition for the repair of damage or loss of nerve cells. The peptide can be used in cell culture media to promote growth of muscle or nerve cell lines. The peptides are used to treat conditions associated with muscle fatigue and/or injury for example during exercise, and to treat muscle deterioration or damage for example after a heart attack. They may be useful to identify agents that potentiate or inhibit muscle or nerve cell growth, as a treatment to promote growth or repair of muscle or nerve cells in vivo and to inhibit apoptosis of precursor cells. The present sequence represents a mouse MGF amino acid sequence, which is given in comparison with mouse insulin growth factor 1 (IGF1) in the exemplification of the present invention.

XX SQ Sequence 133 AA;

Query Match 89.5%; Score 539; DB 7; Length 133;  
Best Local Similarity 91.0%; Pred. No. 9.8e-48;  
Matches 101; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEMY 60  
DB 23 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEMY 82  
QY 61 CAPLKPAKASVRAQRHTDMPKTKYQPPSTNKTAKSQ-RRKSGTFFEHK 111

Db 83 CAPLKPTKARSIRAPQHTDMPXTOKSPSLSTNKTLORRKRGSTFEENK 133

RESULT 10  
AAE02448  
ID AAE02448 standard; protein; 195 AA.

XX

XX AAE02448

XX AAE02448

XX AAE02448

XX AAE02448

XX AAE02448

XX AAE02448

XX AAE02448

XX AAE02448

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XX AAE02448

XX AAE02448

DE Rat IGF-I isoform mechano-growth factor (MGF) protein.

XX Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

XX mechano-growth factor; neurological disorder; neurodegenerative disorder;

XX amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

XX poliomyelitis; post-polio syndrome; toxin; motoneuron disorder;

XX nerve damage; autonomic muscular dystrophy; diabetic neuropathy;

XX sex-linked muscular dystrophy; peripheral neuropathy;

XX Alzheimer's disease; Parkinson's disease.

XX Rattus sp.

XX W0200136483-A1.

XX 25-MAY-2001.

XX 15-NOV-2000; 2000MO-GB004354.

XX 15-NOV-1999; 99GB-00026968.

XX (UNLO ) UNIV COLLEGE LONDON.

XX Goldspink G, Johnson I;

XX WPI; 2001-355620/37.

XX N-PSDB; AAD06399.

XX Claim 4; Page 52; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF), an

XX Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a

XX medicament for the treatment of neurological disorder. The MGF is capable

XX of reducing motoneuron loss by 20% or greater in response to nerve

XX avulsion, and effects motoneuron rescue, preferably adult motoneuron

XX rescue. The MGF polynucleotide and polypeptide are useful in the

XX manufacture of a medicament for the treatment of a neurological disorder,

XX including a disorder of motoneurons and/or neurodegenerative disorder,

XX e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive

XX spinal muscular atrophy, infantile or juvenile muscular atrophy,

XX poliomyelitis or post-polio syndrome, a disorder caused by exposure to a

XX toxin, motoneuron trauma, a motoneuron lesion or nerve damage, an

XX injury that affects motoneurons, motoneuron loss associated with aging,

XX autosomal or sex-linked muscular dystrophy, diabetic neuropathy,

XX peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The

XX present sequence is rat IGF-I isoform MGF. MGF is a muscle isoform having

XX extracellular (EC) domain, hence also referred to as IGF-1-EC. The MGF

XX protein comprises amino acid sequences encoded by nucleic acid sequence

XX of IGF-I exons 4, 5 and 6 in the reading frame of MGF

XX Sequence 111 AA;

XX Query Match 85.0%; Score 512; DB 4; Length 111;

XX Best Local Similarity 86.5%; Pred. No. 4.9e-45;

XX Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

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AC AAD10560;  
 XX 25-FEB-2002 (first entry)  
 DT XX  
 XX  
 DE Rat mechano-growth factor (MGF) polypeptide.  
 XX  
 XX Rat; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;  
 XX neuroprotective; nerve damage; peripheral nervous system; nerve severing;  
 XX muscle; neurological disorder; motoneuron loss; motoneuron disorder;  
 XX nerve avulsion.  
 OS Rattus sp.  
 XX  
 XX WO200185781-A2.  
 EN  
 XX  
 XX 15-NOV-2001.  
 PD  
 XX  
 XX 10-MAY-2001; 2001WO-GB002054.  
 PF  
 XX  
 XX 10-MAY-2000; 2000GB-00011278.  
 PR  
 XX  
 XX (UNLO) UNIV COLLEGE LONDON.  
 PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.  
 XX  
 XX Goldspink G, Terenghi G;  
 PI  
 XX WPI: 2002-055595/07.  
 DR N-PSDB; AAS16878.  
 DR  
 XX  
 XX Use of insulin-like growth factor-I (IGF-I) isoform known as mechano  
 PT growth factor which is encoded by IGF-I exons 4,5,6 and has ability to  
 PT reduce motoneuron loss in response to nerve avulsion, to treat nerve  
 PT damage.  
 PS  
 XX Claim 11; Fig 6; 65pp; English.  
 XX  
 XX The invention relates to the use of an insulin-like growth factor I (IGF-  
 CC I) isoform, known as mechano-growth factor (MGF), in the manufacture of a  
 CC medicament for treating nerve damage in the peripheral nervous system, or  
 CC for treating nerve damage by localising MGF at the site of damage. The  
 CC nerve damage may include severing of a nerve. The treatment may be  
 CC combined with another treatment (such as a polypeptide growth factor  
 CC other than MGF) that prevents or diminishes degeneration of the target  
 CC organ (for example, muscle) which the damaged nerve innervates, whereby  
 CC the treatment of the muscle with MGF or a polynucleotide encoding MGF  
 CC prevents or diminishes degeneration. The method is useful for treating  
 CC neurological disorders, preferably motoneuron disorders. These methods  
 CC can reduce motoneuron loss by 20% or greater in response to nerve  
 CC avulsion. This sequence represents the rat MGF polypeptide  
 CC  
 XX  
 SQ Sequence 111 AA;  
 Query Match 85.0%; Score 512; DB 5; Length 111;  
 Best Local Similarity 86.5%; Pred. No. 4.9e-45;  
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;  
 QY 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDLRLRLEY 60  
 DB 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDLRLRLEY 60  
 QY 61 CAPLPKAAASVRAQRHTDMPKTKOKYOPSTNKKMSQRRKSGSTPEEHK 111  
 DB 61 CVRCPTKSARSIRARHTDMPKTKOKYOPSTNKKMSQRRKSGSTPEEHK 111  
 RESULT 13  
 ID ABR63168 standard; protein; 111 AA.  
 XX  
 XX ABR63168;  
 AC  
 XX  
 DT 18-DEC-2003 (first entry)  
 XX

DE Rat mechano growth factor (C-terminal end).  
 XX  
 XX Mechano growth factor; MGF; insulin-like growth factor I; rat;  
 XX splice variant; cardiant; vasotropic; gene therapy.  
 XX  
 OS Rattus sp.  
 XX  
 XX WO2003066082-A1.  
 PN  
 XX  
 XX 14-AUG-2003.  
 PD  
 XX  
 XX 06-FEB-2003; 2003WO-GB000537.  
 PF  
 XX  
 XX 07-FEB-2002; 2002GB-00002906.  
 PR  
 XX  
 XX (UNLO) UNIV COLLEGE LONDON.  
 PA (UNIL) UNIV ILLINOIS FOUNO.  
 XX  
 XX Goldspink G, Goldspink P;  
 PI  
 XX WPI: 2003-636936/60.  
 DR N-PSDB; ACF79636.  
 DR  
 XX  
 XX Use of Mechano Growth Factor polypeptide or polynucleotide for preventing  
 PT or limiting apoptosis in the myocardium, particularly for preventing or  
 PT limiting myocardial damage in response to ischemia or mechanical overload  
 PT of the heart.  
 PS  
 XX Claim 5; Fig 8; 74pp; English.  
 XX  
 XX The present sequence is that of the C-terminal end of novel rat mechano  
 CC growth factor (MGF), encoded by exons 3-6 of the IGF-I gene. MGF is a  
 CC splice variant and non-liver type isoform of insulin-like growth factor  
 CC (IGF-I) that is activated in response to cardiac tissue damage and which  
 CC has a repair function in the ischemic and/or overloaded heart. The rat  
 CC MGF transcript has a 52 base insert in the B domain that alters the  
 CC reading frame and hence the C-terminal end of MGF protein in comparison  
 CC with other IGF-I splice variants. The invention provides use of a MGF  
 CC polypeptide or polynucleotide in the manufacture of a medicament for the  
 CC prevention or limitation of myocardial damage in response to ischemia or  
 CC mechanical overload of the heart by preventing or limiting apoptosis in  
 CC the myocardium. The MGF polypeptide, polynucleotide or medicament is also  
 CC useful for administration in response to a heart attack  
 CC  
 XX  
 SQ Sequence 111 AA;  
 Query Match 85.0%; Score 512; DB 7; Length 111;  
 Best Local Similarity 86.5%; Pred. No. 4.9e-45;  
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;  
 QY 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDLRLRLEY 60  
 DB 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDLRLRLEY 60  
 QY 61 CAPLPKAAASVRAQRHTDMPKTKOKYOPSTNKKMSQRRKSGSTPEEHK 111  
 DB 61 CVRCPTKSARSIRARHTDMPKTKOKYOPSTNKKMSQRRKSGSTPEEHK 111  
 RESULT 14  
 ID ADE57466 standard; protein; 181 AA.  
 XX  
 XX ADE57466;  
 AC  
 XX  
 XX 29-JAN-2004 (first entry)  
 DT  
 XX  
 XX Rat Protein P08024, SEQ ID NO 3327.  
 DE  
 XX  
 XX Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury;  
 XX chronic constriction injury; CCI; spared nerve injury; SNI; Chung.  
 KM  
 XX Rattus norvegicus.  
 OS

XX PN WO2003016475-A2.  
 XX PD 27-FEB-2003.  
 XX PF 14-AUG-2002; 2002WO-US025765.  
 XX PR 14-AUG-2001; 2001US-0312147P.  
 XX PR 01-NOV-2001; 2001US-0346382P.  
 XX PR 26-NOV-2001; 2001US-0333447P.  
 XX PA (GENO) GEN HOSPITAL CORP.  
 XX PA (FARB) BAYER AG.  
 XX PI Woolf C, D'Urso D, Befort K, Costigan M;  
 XX DR WPI; 2003-268312/26.  
 XX DR GENBANK; P08024.  
 XX PT New composition comprising two or more isolated polypeptides, useful for  
 XX PT preparing a medicament for treating pain in an animal.  
 XX PS Claim 1; Page; 1017pp; English.  
 XX CC The invention discloses a composition comprising two or more isolated rat  
 CC or human polynucleotides or a polynucleotide which represents a fragment,  
 CC derivative or allelic variation of the nucleic acid sequence. Also  
 CC claimed are a vector comprising the novel polynucleotide, a host cell  
 CC comprising the vector, a method for identifying a nucleotide sequence  
 CC which is differentially regulated in an animal subjected to pain and a  
 CC kit to perform the method, an array, a method for identifying an agent  
 CC that increases or decreases the expression of the polynucleotide sequence  
 CC that is differentially expressed in neuronal tissue of a first animal  
 CC subjected to pain, a method for identifying a compound which regulates  
 CC the expression of a polynucleotide sequence which is differentially  
 CC expressed in an animal subjected to pain, a method for identifying a  
 CC compound that regulates the activity of one or more of the  
 CC polynucleotides, a method for producing a pharmaceutical composition, a  
 CC method for identifying a compound or small molecule that regulates the  
 CC activity in an animal of one or more of the polypeptides given in the  
 CC specification, a method for identifying a compound useful in treating  
 CC pain and a pharmaceutical composition comprising the one or more  
 CC polypeptides or their antibodies. The polynucleotide or the compound that  
 CC modulates its activity is useful for preparing a medicament for treating  
 CC pain (e.g. spinal segmental nerve injury (Chung), chronic constriction  
 CC injury (CCI) and spared nerve injury (SNI)) in an animal (e.g. gene  
 CC therapy). The sequence presented is a rat protein (shown in Table 2 of  
 CC the specification) which is differentially expressed during pain. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic form directly from WIPO at  
 CC ftp.wipo.int/pub/published\_poc\_sequences.  
 XX SX Sequence 181 AA;  
 XX Query Match 84.4%; Score 508; DB 7; Length 181;  
 XX Best Local Similarity 88.7%; Pred. No. 2.1e-44;  
 XX Matches 94; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGI VDECCFRSCLRLRLEY 60  
 DB 49 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGI VDECCFRSCLRLRLEY 108

QY 61 CAPLKPAAKAAASVRAQRHTDMPKTKQSPSTNKKKKKQRRRKGST 106  
 DB 109 CAPLKPAAKAAASVRAQRHTDMPKTKQSPSTNKKKKKQRRRKGST 154

RESULT 15  
 ID AAE02452  
 AC AAE02452 standard; protein; 105 AA.  
 XX AAE02452;  
 XX

DT 10-AUG-2001 (first entry)  
 XX DE Rabbit liver-type IGF-I isoform (L-IGF-I) protein.  
 XX KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;  
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;  
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;  
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;  
 KW nerve damage; ataxonal muscular dystrophy; diabetic neuropathy;  
 KW sex-linked muscular dystrophy; peripheral neuropathy;  
 KW Alzheimer's disease; Parkinson's disease; liver; L-IGF-I.  
 XX OS Oryctolagus cuniculus.  
 XX PN WO200136463-A1.  
 XX PD 25-MAY-2001.  
 XX PR 15-NOV-2000; 2000WO-GB004354.  
 XX PR 15-NOV-1999; 99GB-00026968.  
 XX PA (UNLO) UNIV COLLEGE LONDON.  
 XX PI Goldspink G, Johnson I;  
 XX DR WPI; 2001-355620/37.  
 XX DR N-PSDB; AAD06405.  
 XX PT Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,  
 PT capable of reducing motoneurone loss, in the manufacture of a medicament  
 PT for the treatment of neurological disorder.  
 XX PS Disclosure; Page 60-61; 66pp; English.  
 XX CC The present invention relates to use of mechano-growth factor (MGF), an  
 CC Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a  
 CC medicament for the treatment of neurological disorder. The MGF is capable  
 CC of reducing motoneurone loss by 20% or greater in response to nerve  
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone  
 CC rescue. The MGF polynucleotide and polypeptide are useful in the  
 CC manufacture of a medicament for the treatment of a neurological disorder,  
 CC including a disorder of motoneurones and/or neurodegenerative disorder,  
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive  
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,  
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a  
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an  
 CC injury that affects motoneurones, motoneurone loss associated with aging,  
 CC ataxonal or sex-linked muscular dystrophy, diabetic neuropathy,  
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The  
 CC present sequence is rabbit liver-type IGF-I isoform (L-IGF-I). The L-IGF-  
 CC I protein comprises amino acid sequences encoded by nucleic acid sequence  
 CC of IGF-I exons 4 and 6. Note: The present sequence (SEQ ID NO: 14) is  
 CC stated as being the same as that shown in figure 10 (AAE02456) of the  
 CC specification. However it differs at few positions  
 XX SX Sequence 105 AA;  
 XX Query Match 77.7%; Score 468; DB 4; Length 105;  
 XX Best Local Similarity 100.0%; Pred. No. 1.6e-40;  
 XX Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGI VDECCFRSCLRLRLEY 60  
 DB 1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGI VDECCFRSCLRLRLEY 60

QY 61 CAPLKPAAKAAASVRAQRHTDMPKTKQ 86  
 DB 61 CAPLKPAAKAAASVRAQRHTDMPKTKQ 86

Search completed: March 3, 2004, 07:53:36  
 Job time : 48.1446 secs

